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Educational News and Editorial Comment

THE NORTH CENTRAL ASSOCIATION OF COLLEGES AND SECONDARY SCHOOLS

The North Central Association of Colleges and Secondary Schools held its thirtieth annual meeting in Chicago March 19–21. Under the plan of organization of this association, much of the work is performed by three commissions, namely, the Commission on Institutions of Higher Education, the Commission on Unit Courses and Curricula, and the Commission on Secondary Schools. These commissions have a relatively small membership; much informal discussion of questions and problems is therefore possible.

One of the issues before the Commission on Secondary Schools was that of the relation of the superintendent of schools to the association. The opinion was expressed by a few representative superintendents that many of the standards of the association require the consideration of the superintendent at the time of the making of the budget. In view of this fact, these superintendents urged that the superintendents, rather than the principals, should play an active part in the affairs of the association. One superintendent declared that it was very seldom that a superintendent attended the meetings of the association, and he asked whether superintendents were wel-

comed. In reply to this point of view of the superintendents, attention was called to the fact that the North Central Association is a voluntary organization of secondary schools and colleges. It is expected, therefore, that the educational officer responsible for the management of the high school will submit the annual report for the school and represent the school at the meetings of the association. One of the state inspectors of schools said that the annual reports from three-fourths of the high schools of his state are submitted by the superintendents. The reports from the remaining one-fourth, representing the larger high schools of the state, are submitted by the high-school principals. One result of the discussion was the passage of a resolution advising the state committees to select a superintendent of schools to act as an advisory member.

Professor C. O. Davis, of the University of Michigan, presented a partial summary of the data contained in this year's reports. These data related to the preparation of the teachers, the teaching load, the pupil load, equipment of buildings, etc. The association requested Professor Davis to complete the tabulation of the data and to make a comparison between the findings of the present study and the findings of previous studies of the schools approved by the association. It was directed that this completed analysis should be published as a special bulletin of the association and distributed to the schools holding membership in the association.

The Commission on Unit Courses and Curricula submitted a bulletin containing a qualitative definition of secondary-school units. This material will be distributed to the high schools in the association, and criticisms and suggestions will be requested. This commission also plans to formulate a quantitative definition of the academic units offered in the typical secondary school. This will be published in the form of a second bulletin. It is believed that the two bulletins prepared by this commission will be very helpful in bringing about a certain degree of uniformity in the scope and content of high-school units.

The Commission on Higher Institutions received an extended report from its secretary, President R. M. Hughes, of Miami University. President Hughes's report showed the deficiencies that certain colleges must correct before 1927 in order to maintain their

standing as approved higher institutions. The opinion was commonly expressed that 1927 will be a year of reckoning for many colleges in the North Central territory.

E. L. Miller, supervising principal of the high schools of Detroit, Michigan, and president of the association, presented a very humorous and thought-provoking paper, entitled, "A Good Word for the High School." This will appear in Part II of the proceedings, which will be available in June.

Dean C. E. Chadsey, of the University of Illinois, presented a report showing the need of greater uniformity in the matter of the titles, as well as the content, of courses in education. On the basis of Dean Chadsey's findings, it is to be expected that the association will seek to formulate a better definition of its requirements in professional training.

The association approved the recommendation of the Committee on Junior High Schools and voted that there shall be no attempt at this time to prepare a list of standard junior high schools. This is the same recommendation as has been made by previous committees. The committee was continued and directed to gather information and to formulate guiding principles for the organization of junior high schools. The report of the committee will appear in Part I of the proceedings.

Dean C. R. Maxwell, of the University of Wyoming, chairman of the Committee on Special Studies, announced his plan to issue in November, 1925, a report on the success of graduates of North Central Association high schools in their first year of college work.

The high schools and colleges of West Virginia were voted the privilege of applying for recognition by the North Central Association. The acceptance of this privilege by West Virginia will make a total of twenty states included in the association.

There were no significant changes in the standards for the accrediting of high schools, except the adoption of a new rule for determining the pupil-teacher ratio. The revision reads: "In determining this ratio, the principal, vice-principals, study-hall teachers, vocational advisers, librarians, and other supervisory officers may be counted as teachers for such portion of their time as they devote to the management of the high school. In addition, such clerks as aid

in the administration of the high school may be counted on the basis of two full-time clerks for one full-time teacher." This is an important change and one that will make it easier for the larger high schools to meet the present standards of the association.

The association added 147 high schools to its list of approved schools, making a total of 1,797 high schools on the accredited list of the association.

President H. M. Gage, of Coe College, Cedar Rapids, Iowa, was elected president of the association for the year 1925–26. Professor J. B. Edmonson, of the University of Michigan, was elected secretary; and Principal W. I. Early, of Sioux Falls, South Dakota, was continued as treasurer.

J. B. EDMONSON

THE BUREAU OF EDUCATION AS A CLEARING-HOUSE FOR RESEARCH IN SECONDARY EDUCATION

Secondary education in the United States has made enormous strides in the past ten years. Much of the progress is directly attributable to the series of bulletins issued by the Commission on the Reorganization of Secondary Education through the Bureau of Education of the Department of the Interior. The effect of these bulletins has been to stimulate a nation-wide reorganization movement. The extent of this movement is due, in the opinion of many educators, to the wide distribution of the bulletins, made possible by the fact that they are distributed by the Bureau of Education. High-school officials and teachers from all sections of the country have had their attention challenged. They have read, pondered, experimented, and repaired to teachers' colleges, where the bulletins are used as textbooks.

This series of bulletins advanced a new point of view and presented more or less general facts and opinions with regard to it. The point of view has been accepted, and workers in the field of secondary education have gone at the task of converting the existing high school into a high school patterned after new ideas. But, willing to reorganize as high-school officials have become and willing to seek the newer purposes of the secondary school as teachers have become, they have been faced by insurmountable difficulties in many direc-

tions. Probably no group of educators in all history have attacked difficulties more vigorously and with more unanimity and scientific method than have the secondary-school people in the United States in the last decade. The very extent of the movement, the vigor of attack on the problems, and the tools brought into service, while resulting in progress amounting almost to revolution, have created problems which must be faced immediately.

Workers in secondary education have appealed to the Bureau of Education to undertake the organization of the various agencies interested primarily in secondary education for co-operative research, using the Bureau of Education as a clearing-house. The commissioner of education, because of the apparent need, has agreed to undertake the service requested.

The invitation of Commissioner Tigert presented to various organizations to appoint representatives to serve on a central committee was acted upon by three organizations which met in Cincinnati in February, and committee members were named. Other organizations are expected to name committee members at their first meeting. It is contemplated that these committee members and selected individuals will be added to a committee previously organized by the Bureau of Education for the purpose of studying the problems of the small high school to form a general committee on secondary education.

Some of the proposed activities of the Bureau of Education in setting up this service are: to assume the duties attached to the office of executive secretary of the committee; to serve as a repository of information in the way of raw data made available through specific studies using forms of reports approved by the committee, theses of graduate students on secondary-education topics, and other special research studies made by any of the co-operating organizations independent of the general committee, such information to be distributed by the Bureau of Education in the way agreed upon as desirable by the general committee and the commissioner of education; to collect data for research studies authorized by the general committee; to tabulate or assist in tabulating data on authorized studies; to undertake through its own personnel to make studies recommended by the committee and approved by the commissioner

of education; to publish such theses and special studies as are recommended by the committee and approved by the commissioner of education; and to prepare and distribute periodical lists of available data, theses, and special studies under way or completed by institutions belonging to co-operating organizations.

E. E. WINDES

UNITED STATES BUREAU OF EDUCATION

THE MODERN FOREIGN LANGUAGE STUDY

The revision of the secondary-school curriculum, which has engaged the attention of the National Education Association with increased intensity since 1913, has become, since the meeting of the Department of Superintendence at Cincinnati in February, 1925, one of the foremost questions facing high-school superintendents, principals, and teachers. Only through earnest and continued co-operation on the part of administrators and experts can this problem be solved. Contributions to its solution have been made by several recent surveys of special subjects in the curriculum, notably one of mathematics, which was incorporated in a report on *The Reorganization of Mathematics in Secondary Education*, published in 1923, and the Classical Investigation, which brought out the first volume of its findings in September, 1924. Both of these studies were conducted on a wide scale, with adequate financial support from the General Education Board.

The Modern Foreign Language Study, which has been under way since October, 1924, plans a wider field of inquiry. It is organized under the auspices of the American Council on Education and receives financial support from the Carnegie Corporation of New York. The investigation which it has undertaken will include not only public and private secondary schools but colleges and normal schools as well, since increasingly large numbers of students of French, German, Italian, and Spanish crowd the elementary and secondary classes of these higher institutions. Another feature, scarcely touched by previous investigations, will be the study of the facilities in American institutions for training teachers of modern languages. Hand in hand with this nation-wide inquiry goes a similar undertaking in Canada, under the auspices of the Canadian

Conference of Universities, also financed by the Carnegie Corporation.

The organization of the Modern Foreign Language Study is thus intended to cover the entire continent and will seek to draw lessons from European and Spanish-American practices. The study is under the guidance of a general Committee on Direction and Control, with offices at 561 West 116th Street, New York City, and 58th Street and Ellis Avenue, Chicago. This committee is representative of the entire country so far as secondary schools, colleges, and teacher-training institutions, as well as administrative agencies, are concerned.

The program of the study will consist, first of all, in the collection and study of the statistics of foreign-language teaching, enrolment, the training and equipment of teachers, and their administrative and legal status. This is necessarily a complicated and expensive undertaking, but here, as elsewhere, the co-operation of the Bureau of Education in Washington has been secured within the limits of budgetary and legal possibility. If statistics are to be exhaustive for the twenty thousand secondary schools of the country, no other road than that of the questionnaire is open. The committee is quite aware of the heavy burden which constantly increasing questionnaires throw upon the secondary-school organization, and, working in co-operation with the Bureau of Education, it has sought to reduce this to a minimum. The study is of such importance to the whole educational and social life of the nation that the co-operation of principals and modern-language teachers is confidently expected in the search for necessary and basic information. A similar study will be undertaken of college enrolment and standards of admission and graduation in the modern languages, and an exhaustive investigation has already been begun of the present status and opportunities in the field of teacher-training in these languages.

An equally important part of the program lies in the measurement of present achievement in modern-language study. Many experiments have already been made in achievement and prognosis tests, but no widely recognized standards have yet been attained. The study has undertaken to create a battery of tests of achievement in vocabulary and comprehension; in translation, grammar, and

composition; and in oral understanding, making use of such tests as are already in existence and enlisting the services of experienced modern-language teachers and educational psychologists. When these tests are standardized, and it is hoped that this can be done experimentally in the spring of 1925, they will be tried out in a large number of schools, so that the experience of many thousands of secondary-school students may be available before the tests are finally accepted as valid for the various grades of language study. The measurement of achievement in understanding and using the written and spoken language is fundamental for determining what is being accomplished in the American schools and in making suggestions for improvement in content and method.

There is, however, another and broader question involved in the study. How far do the capacities and powers developed through a study of French, German, and Spanish carry over into life, and what is their *social* value for American citizenry? What proportion of the students of these languages can make use of them in letter-writing, and what ultimate educational gain, if any, is there for the hundreds of thousands of American boys and girls who study them every year? Investigation of these ultimate objectives and the testing of their validity after formal schooling has ceased form a part of this study's program. For this purpose a number of researches, tests, and controlled experiments will be organized in co-operation with schools of education. How many students can read French, German, or Spanish after graduation? How many can understand these languages when spoken? What contribution does a study of the foreign language make to the ability to use English correctly and to literary and artistic appreciation? Does this study really aid in a better knowledge of the history and institutions of foreign countries and a better appreciation of their ideals and standards and those of Americans of foreign birth? How necessary is such a study to the prompt utilization of foreign inventions and discoveries? These questions must be approached with an open mind, with no purpose of defending the study of modern languages, but with an attempt to gauge their real importance for American secondary education. Seen from this angle, they constitute a challenge to educational psychologists and students of education, and the results of their

testing will form a proper basis for answering the questions as to how far the study of modern languages is worth while from the standpoint of American secondary education and what must be the content and method of modern foreign language courses in order to be of lasting value to American youth.

The study will probably extend over a period of three years. At the end of this time its findings will be incorporated in a report which should be a real contribution to the secondary-school curriculum.

For a successful conclusion, the co-operation of every teacher of the modern foreign languages in high school and college will be of significance. In addition, the sympathetic assistance of school principals, local and state superintendents, and college administrators is an urgent necessity for the progress of the study. Suggestions and criticisms of the program and methods of the study are earnestly invited.

ROBERT HERNDON FIFE
Chairman of the Committee on Investigation

COLLEGE-ENTRANCE REQUIREMENTS

The Bureau of Education has recently published a bulletin prepared by H. C. McKown, of the University of Pittsburgh, entitled, *The Trend of College Entrance Requirements, 1913–1922*. Mr. McKown shows that colleges have steadily grown more liberal with respect to the subjects which they are willing to accept as preparatory to college work. This seems to be an inevitable consequence of the differentiation of the curriculum which has taken place very rapidly in recent years in both the college and the high school.

On the other hand, colleges have become so overcrowded with students that they have been forced to find devices by which they can legitimately limit the number of those whom they admit. There has developed a tendency to emphasize not particular subjects but such personal qualities as general excellence in all subjects, robust health, and earnestness of purpose. The colleges have attempted by various means to find out which applicants for admission are, to use Mr. McKown's phrase, the "best bets" in a personal way. This has led to a great deal of experimentation with methods of discovering personal excellencies. The old-time examination has

been supplanted by intelligence tests, certificates from high schools, and sampling of the student's knowledge, with exhaustive inquiry into his moral traits and physical stamina.

The details reported by Mr. McKown are very illuminating and should be studied by all high-school administrators as revealing the trends which are characteristic of higher education in this country.

The closing paragraph of the bulletin is so clear a statement of the directions in which progress is being made that it is quoted.

> In conclusion, the flexibility of college entrance requirements implies provision for several elements which the modern educator deems of undisputed value. In brief, these are (1) a recognition of mutual dependence and obligation between the institutions of secondary and higher education, (2) provision for individual differences, (3) exploration for educational and vocational guidance, (4) experimentation in curricula, courses of study, etc., and (5) a democracy in secondary education rather than an undemocratic system, half of which prepares for college and half of which immediately "prepares for life."

ATHLETICS FOR GIRLS

The following is quoted from the bulletin published by the State Department of Education of New York:

> In the campaign for safer athletics for girls, many schools have taken the position that girls' rules only should be used by their teams of girls. This is particularly true in basketball.
>
> The movement is reported to be making good progress. The Lake Placid High School girls of their own volition have agreed to play under rules for girls, and most of the other schools in that section of the state have made the same decision.
>
> Seven suggested safeguards for girls' athletics have been prepared by Daniel Chase, chief of the Physical Education Bureau of the State Department of Education. They are:
>
> 1. No girl should be allowed to play on a school athletic team in an interscholastic contest without (*a*) a signed statement from school medical inspector or from family physician to the effect that the individual is physically fit to participate and (*b*) a signed statement from parent or guardian giving girl permission to compete. This statement should be obtained the day before each interscholastic contest.
>
> 2. The coaching of the team must be in the hands of a competent woman teacher, who shall be responsible to the board of education for the type of character training given and for the sportsmanship shown on and off the floor, as well as the physical condition of the girls who play in any game.

3. No school should organize a varsity team for contest with other schools until it has made provision for all girls to participate in this sport. The ideal should be extensive athletic opportunities for all girls rather than intensive training for a selected few.

4. Girls' rules should govern all interscholastic contests between girls' teams. Our aim should be to promote the type of activities for which girls and women are best adapted rather than to attempt to imitate the various forms of boys' athletics.

5. Girls should not be permitted to participate in interschool contests until they have had an extended period of practice in interclass and intergroup games within the school. Without this experience and training, the average girl is subjected to an intense nervous strain, which is apt to have harmful after-effects.

6. Girls participating in interschool athletic activities should be required to live up to the same scholastic eligibility rules laid down for boys.

7. School authorities should assume responsibility for the conduct of spectators at interscholastic girls' contests, should limit attendance at such contests to pupils and patrons of the school, and should not admit the general public unless it proves itself able to live up to the highest ideals of conduct. The effect of a crowd of poorly educated spectators may easily offset weeks and months of careful training in sportsmanship and conduct. Importance of the social training that comes from athletic participation must never be lost sight of by the school authorities responsible for its organization.

HEALTH AND HOME ECONOMICS IN VIRGINIA

The following statement is issued by the State Board of Education of Virginia:

The enlarged program of health education undertaken in the high schools of the state having departments of home economics is beginning to show remarkably fruitful results.

Last autumn the high-school departments of home economics were requested to provide hot, nourishing drinks for every undernourished child. A health play or pageant was suggested as another project for the year. Monthly health talks at chapel; a general health meeting of the local school organization; monthly posters based on health habits, with special attention to drinking cups, amount of water drunk daily, safe water supply, etc.; and carefully kept statistics of improvement in undernourished children—these were other tasks outlined in health work for the year.

From the reports received from the field work of the representatives of the State Board of Health and the State Board of Education, there is abundant evidence that departments of home economics are peculiarly fortunate in opportunities to emphasize health education in an effective manner. The experiments in health education made this year through departments of home economics

have convinced interested officials that these departments can and should be further capitalized in the interest of effective health work.

QUESTIONS FOR DISCUSSION AT TEACHERS' MEETINGS

W. W. Haggard, principal of the high school of Rockford, Illinois, has found it advantageous to formulate series of questions to be taken up at the meetings which he holds with his teachers. These questions grow out of observations made during visits to the various classrooms of the school.

Two series of such questions are as follows:

"GOOD FORM" IN CLASSROOM TEACHING

1. Should the teacher stand or sit?
2. Should the teacher ever be dependent on the textbook?
3. What is the art of questioning?
4. Should the teacher call a pupil's name before asking a question?
5. What is the danger of questioning in a uniform order?
6. What do such questions as "Who knows?" and "Who can tell?" invite?
7. Are "direct" or "categorical" and "leading" questions objectionable?
8. Should pupils be prompted in recitations?
9. Is the pupil's tendency to direct answers to the teacher objectionable?
10. Is it desirable to "echo" answers?
11. Should the teacher repeat questions?
12. Should the teacher call on the brighter pupils to the exclusion of the less capable pupils?

ECONOMICAL CLASSROOM MANAGEMENT

1. Do I spend too much time keeping and reporting my attendance?
2. How much time do I spend recording quarterly marks on individual report blanks?
3. Should the assignment be made at the beginning of the recitation?
4. Do I ever lose time taking up and distributing papers?
5. If the socialized recitation is widely accepted, do I talk too much?
6. Keeping the objectives of the recitation in view, do I conduct the mechanics of problem-solving exercises in the most efficient manner?
7. What is the danger of dictating questions and outlines?
8. Am I conducting a lesson-hearing or a lesson-learning recitation?

A SURVEY OF THE USE MADE OF THE SUPERVISED-STUDY PERIOD

LEO J. BRUECKNER
Director of Instructional Research, Minneapolis Public Schools

The teaching staff of the West High School of Minneapolis had for some time been dissatisfied with the results being secured in the conventional forty-five-minute recitation period. A study of the problem suggested the use of the hour period, part of which could be used for supervised study, as a possible method of improving the conditions.

As a preliminary step to the adoption of this plan, a survey of the work in supervised study was made by the faculty as a whole, under the leadership of W. S. Miller, professor of education at the University of Minnesota, in order to discover the methods and procedure in use in the high schools of the country. It was soon evident that there was no uniformity of opinion as to the type of supervised study most desirable for the different subjects. Special delegations of teachers were sent to study at first hand the work in some of the schools where the reports indicated the results to be fairly satisfactory. At the conclusion of this period of investigation, it was decided to adopt the hour period as a basis for program construction. It was also decided that no definite plan for supervised study should be adopted for the school as a whole. The teachers of the different subjects were to study the work of their classes in an attempt to arrive at the procedures that seemed best.

This plan was initiated in the autumn of 1923 under the direction of Principal C. W. Boardman and was in operation throughout the whole of the first semester. It was then felt that a study should be made to determine the current practices in the different departments and to arrive at tentative conclusions as to general tendencies. It was felt that the teachers would be aided in their own experimenting by knowing the common practice and by modifying their own practice, if necessary.

A preliminary consideration of this question by a committee of teachers resulted in the suggestion that two types of investigation be made: (1) a time analysis of the use made of the recitation period and (2) a study of the order in which the various activities occurred. A time analysis would reveal the amount of time being spent by the class on different parts of the period, such as the recitation proper, the assignment, tests, supervised study, and similar activities. A study of the order in which these activities occurred would show the place of the assignment in a lesson, the place of supervised study in the period, and other factors important in evaluating the work.

Since it was necessary to include in this study the work of approximately one hundred teachers, a plan was worked out by which each teacher kept a record of his own procedure for a week in two classes. The blank that was used for this purpose had the following items printed in a column on the left-hand side of the sheet: "Assignment," "Recitation," "Supervised study," "Laboratory," "Written test or examination," and "Remarks." Across the top of the blank appeared the names of the days of the week with "Order" and "Time" under each.

The items in the blank were defined for the teachers in order that all might have a common understanding of the terms. While the data as reported by a teacher may sometimes not have been listed as they might have been by some other teacher, the results showed his analysis of his own work as he saw it. The definitions of the terms and the directions for filling out the blank were discussed in a faculty meeting prior to the making of the record. The definitions and directions are as follows:

Meaning of the Items on the Blank

1. *Assignment.*—This refers to the part of the lesson in which the teacher develops and assigns new work to the pupils to be prepared after the assignment has been made. It deals in general with the assignment of material which is new and upon which the pupils have not made previous preparation. It is to be the definite basis for a subsequent lesson or series of lessons.

2. *Recitation.*—This covers the review work, questions on old or new material by the pupils, returning and collecting written work, class discussion, and other class activities dealing with the development of previously assigned and prepared materials.

3. *Supervised study.*—This refers to the part of the class period definitely given over to a study of the materials to be dealt with in a subsequent lesson. It may be directed or undirected study, conferences and the like that occur during the regular class period.

4. *Laboratory.*—Individual experiments in physics or chemistry, individual work in bookkeeping, typewriting and similar activities should be included here.

5. If a test or examination is given as the whole or a part of the work of a class period, this should be indicated after "Test or examination."

6. Two blank spaces are provided for the listing of any additional activities. For some kinds of lessons the blank may be unsatisfactory. In that case the nature of the work can be briefly indicated on the back of the sheet.

DIRECTIONS

1. The data called for may be made out for any two classes which a teacher meets. The blank calls for the facts for one week.

2. In the column headed "Order" indicate by "1" the activity that occurred first; indicate by "2" the one that occurred second; and so on.

3. In the column headed "Time" indicate as closely as you can the amount of time given to each activity.

4. At the end of the week, return the blank to the principal's office.

Each teacher was asked to make a record of the work of only two classes for one week. The teachers of art, music, shop and industrial courses, and physical education were not included in the study. No unusual activities, such as school plays, parties, or special assemblies, took place during the week. The results of this study are therefore those of a typical school week and portray the usual practice of the school.

An analysis was first made of the 266 classes in which the only three class activities reported were the assignment, the recitation, and the supervised-study period. In the other classes some other activity occurred. Table I shows the place of the assignment in the class period.

The reports for the different subjects were divided, on the basis of a general classification, into seven groups, regardless of grade. For example, English included all courses in literature, composition, spelling, and the like of all semesters from the freshman year through the senior year. Table I is to be read as follows: In 43 English classes, or 68.2 per cent of the total, the assignment was the first activity of the period, occurring before either the recitation or supervised

study. In 18 English classes, or 28.6 per cent of the total, the assignment was the second activity, occurring between the other two activities; in 2 English classes, or 3.2 per cent of the total, the assignment was the last activity of the period.

It is apparent from Table I that there was great variability among teachers so far as the time of making the assignment was concerned. In the few natural science and home economics courses the assignment was uniformly made between the recitation and supervised study. In the commercial courses it was usually made at the beginning of the period. In English, foreign language, social science,

TABLE I

THE PLACE OF THE ASSIGNMENT IN THE CLASS PERIOD IN 266 CLASSES

SUBJECT	ORDER						TOTAL	
	1		2		3			
	Number	Per Cent	Number	Per Cent	Number	Per Cent	Number	Per Cent
English	43	68.2	18	28.6	2	3.2	63	100.0
Foreign language	27	60.0	17	37.8	1	2.2	45	100.0
Social science	35	42.7	47	57.3	.....	.....	82	100.0
Natural science	.....	.....	10	100.0	.....	.....	10	100.0
Home economics	.....	.....	3	100.0	.....	.....	3	100.0
Mathematics	31	56.4	23	41.8	1	1.8	55	100.0
Commercial subjects	7	87.5	.....	.....	1	12.5	8	100.0

and mathematics it was made either before or after the recitation, which, according to definition, was concerned with the discussion of an assignment made on a previous day. It is evident, therefore, that the teachers in this school did not find a uniform time for giving the assignment a desirable policy. The time of giving the assignment was necessarily determined by the nature of the recitation. A question may be raised, however, as to the psychological justification of a new assignment before the problems in the previously assigned material have been discussed. It is interesting to note that in five cases the new assignment was made after the recitation and supervised study. Another interesting fact is the evidence that in English by far the greatest number of new assignments were made at the beginning of the class period.

In Table II is given a summary of the place of the recitation proper in the class period. Here again there are shown wide variations in classroom practice. In natural science and home economics the first activity of the period was the recitation on previously assigned material. In the commercial courses the recitation came second, usually after the assignment of new material had been made. In English, foreign language, social science, and mathematics there was no consistent tendency, although the recitations in English were usually held after the assignment of new material.

These facts raise a question as to the purpose of a recitation. Is its purpose to check up on the facts learned? Is it to develop new

TABLE II

THE PLACE OF THE RECITATION IN THE CLASS PERIOD IN 266 CLASSES

Subject	Order						Total	
	1		2		3			
	Number	Per Cent	Number	Per Cent	Number	Per Cent	Number	Per Cent
English	18	28.6	43	68.2	2	3.2	63	100.0
Foreign language	17	37.8	22	48.9	6	13.3	45	100.0
Social science	43	52.4	33	40.3	6	7.3	82	100.0
Natural science	10	100.0	.....	.....	.....	.....	10	100.0
Home economics	3	100.0	.....	.....	.....	.....	3	100.0
Mathematics	24	43.6	26	47.3	5	9.1	55	100.0
Commercial subjects	.....	.....	8	100.0	.....	.....	8	100.0

materials to lead to new problems? Is its function review? Is it to develop new appreciations? Should the assignment grow out of a class discussion, or should the assignment be made before it has been possible to locate the difficulties of the pupils through discussion? Evidently in actual practice, as revealed by the facts in Tables I and II, there is no usual time when assignments are made.

Table III contains the data with regard to the place of supervised study in the class period. The results show conclusively that the predominant practice in all subjects was to have the supervised study follow the assignment and the recitation. There are, however, exceptions to this general tendency, since in eight classes the supervised study came at the beginning of the class period.

Tables I, II, and III show an evident lack of uniformity of procedure in the different subjects. However, certain general tendencies are apparent.

It is clear from these data that there were in general three procedures in use at the West High School: (1) the method in which the recitation was followed by an assignment and then a period of supervised study; (2) the method in which the assignment preceded the recitation and the supervised study; and (3) the method in which either the assignment or the recitation came first, the order apparently being determined by general considerations rather than by usual procedure.

TABLE III

THE PLACE OF SUPERVISED STUDY IN THE CLASS PERIOD IN 266 CLASSES

SUBJECT	ORDER						TOTAL	
	1		2		3			
	Number	Per Cent	Number	Per Cent	Number	Per Cent	Number	Per Cent
English	2	3.2	2	3.2	59	93.6	63	100.0
Foreign language	1	2.2	6	13.3	38	84.5	45	100.0
Social science	4	4.9	2	2.4	76	92.7	82	100.0
Natural science	.....	.....	.....	.....	10	100.0	10	100.0
Home economics	.....	.....	.....	.....	3	100.0	3	100.0
Mathematics	.....	.....	6	10.9	49	89.1	55	100.0
Commercial subjects	1	12.5	.....	.....	7	87.5	8	100.0

A question may be raised as to the desirability of a uniform procedure in each of the several subjects. It may well be that a particular method may be best for the subjects that reported it as their usual procedure but not the best in meeting the needs of the other subjects.

The variability of the methods used in supervised study is further emphasized by a study of the length of time used for that purpose in each class each day of the week. The data on this point are presented by subjects in Tables IV, V, VI, VII, VIII, IX, and X for all classes that were reported. The subjects included are English, foreign language, social science, natural science, mathematics, commercial subjects, and home economics.

Table IV contains the detailed data for English. This table is to be read as follows: On Monday 2 classes in English gave 60 minutes or the entire period to supervised study; 1 class gave 50 minutes. The variation was from 60 minutes in 2 classes to no time in 11 classes. The number of classes reporting was 41. The median number of minutes devoted to supervised study in all classes was 25, while the median number of minutes devoted to supervised study in those classes reporting supervised study was 30. Similar data are given for each of the other days of the week. Among the 12 classes

TABLE IV

DISTRIBUTION OF 41 ENGLISH CLASSES ON THE BASIS OF THE AMOUNT OF TIME GIVEN DAILY TO SUPERVISED STUDY

Number of Minutes	Monday	Tuesday	Wednesday	Thursday	Friday	Total
60	2	.....	5	5	.....	12
55	.....	.....	.....	.....	.....	.....
50	1	.....	.....	.....	.....	1
45	3	2	3	.....	.....	8
40	4	4	.....	4	6	18
35	1	3	3	2	1	10
30	5	5	2	4	1	17
25	4	6	8	4	1	23
20	1	7	5	4	7	24
15	7	7	4	8	5	31
10	2	2	2	2	5	13
5	.....	.....	.....	.....	1	1
None reported	11	5	9	8	14	47
Total	41	41	41	41	41	205
Median of all classes	25	25	25	24	15	22
Median of those classes reporting time	30	26	27	27	21	26

for the week which gave their entire time to supervised study are a number of classes in which the entire period was given to the preparation of several units of a play. Among the forty-seven classes for the week which reported no supervised study are a few classes that had tests and consequently had no time for supervised study on a particular day. The table shows that a large number of classes had only short periods of time, less than 15 minutes, set aside for supervised study. The general tendency of the English classes appears to be to spend approximately one-half of the period in supervised study when this activity occurs. This can be seen from the last line at the

foot of the table. Apparently, less time was used for this purpose on Friday than on any other day, while the largest amount of time was used on Monday.

Table V contains the data for the classes in foreign language. The variation in the amount of time used for supervised study was large but not as large as in the case of English. During the entire week 1 class devoted 35 minutes to supervised study, and 35 classes reported no time at all for this purpose. The median amount of time for all classes reporting supervised study was less for foreign language than for English. The median amount of time devoted to supervised

TABLE V

DISTRIBUTION OF 22 FOREIGN-LANGUAGE CLASSES ON THE BASIS OF THE AMOUNT OF TIME GIVEN DAILY TO SUPERVISED STUDY

Number of Minutes	Monday	Tuesday	Wednesday	Thursday	Friday	Total
35	.....	.....	1	.....	.....	1
30	1	2	1	1	2	7
25	1	4	1	3	2	11
20	5	3	4	5	4	21
15	5	2	2	6	1	16
10	2	2	5	1	4	14
5	2	2	.....	.....	.....	4
1	.....	1	.....	.....	.....	1
None reported	6	6	8	6	9	35
Total	22	22	22	22	22	110
Median of all classes	16	15	13	18	12	16
Median of those classes reporting time	19	22	18	21	22	21

study in all classes reporting supervised study in foreign language was practically constant for the week. One third of the period, or approximately 20 minutes, was usually used in this way.

Table VI contains the data for social science. The variation was somewhat greater in social science than in foreign language, while it was less in social science than in English. The median amounts of time reported for social science are somewhat larger than those reported for foreign language, averaging 25 minutes a day for those classes which had supervised study.

Table VII contains the data for natural science. The variation in the amount of time reported for supervised study was practically as great in natural science as in English. Over one-half of the classes

reported no supervised study. This was due in part to the fact that some of them had laboratory work. In those classes in which there

TABLE VI

DISTRIBUTION OF 29 SOCIAL-SCIENCE CLASSES ON THE BASIS OF THE AMOUNT OF TIME GIVEN DAILY TO SUPERVISED STUDY

Number of Minutes	Monday	Tuesday	Wednesday	Thursday	Friday	Total
50	.....	1	1	.....	2	4
45	1	2	.....	.....	1	4
40	.....	.....	.....	1	2	3
35	.....	.....	.....	.....	.....	.....
30	2	4	3	5	2	16
25	8	5	4	2	4	23
20	8	9	8	1	2	28
15	3	3	1	3	4	14
10	1	2	3	3	1	10
5	2	.....	.....	.....	.....	2
1	.....	.....	.....	.....	1	1
None reported	4	3	9	14	10	40
Total	29	29	29	29	29	145
Median of all classes	23	24	21	11	18	21
Median of those classes reporting time	24	24	24	26	27	25

TABLE VII

DISTRIBUTION OF 16 NATURAL-SCIENCE CLASSES ON THE BASIS OF THE AMOUNT OF TIME GIVEN DAILY TO SUPERVISED STUDY

Number of Minutes	Monday	Tuesday	Wednesday	Thursday	Friday	Total
55	.....	.....	.....	1	1	2
50	.....	.....	.....	.....	.....	.....
45	.....	.....	.....	.....	.....	.....
40	1	.....	.....	.....	.....	1
35	.....	.....	1	.....	.....	1
30	1	.....	4	1	1	7
25	1	2	1	.....	2	6
20	3	3	.....	3	1	10
15	2	.....	2	.....	1	5
10	1	1	.....	3	.....	5
5	.....	.....	.....	.....	1	1
1	.....	.....	.....	.....	1	1
None reported	7	10	8	8	8	41
Total	16	16	16	16	16	80
Median of all classes	15	0	8	5	1	0
Median of those classes reporting time	23	23	31	22	25	24

was supervised study the amount of time given to it was approximately the same as in the case of social science.

Table VIII contains the data for mathematics. The variation was less in mathematics than in English, social science, and natural science. It is interesting to note that in 26 mathematics classes no time was given to supervised study and that 40 more of the 110 classes reported less than 20 minutes for this purpose. The median amount of time for all classes reporting supervised study was 20 minutes each day, practically the same as for foreign language.

Table IX contains the data for the commercial subjects, which included business law and commercial arithmetic. The usual amount

TABLE VIII

DISTRIBUTION OF 22 MATHEMATICS CLASSES ON THE BASIS OF THE AMOUNT OF TIME GIVEN DAILY TO SUPERVISED STUDY

Number of Minutes	Monday	Tuesday	Wednesday	Thursday	Friday	Total
35	.....	2	.....	.....	.....	2
30	1	1	4	.....	2	8
25	2	1	5	1	1	10
20	6	8	2	5	3	24
15	7	4	4	6	6	27
10	2	1	3	.....	4	10
5	.....	2	.....	.....	1	3
None reported	4	3	4	10	5	26
Total	22	22	22	22	22	110
Median of all classes	18	20	20	15	15	18
Median of those classes reporting time	20	20	24	19	17	20

of time used for supervised study was 24 minutes. There was considerable variation from day to day.

Table X contains the data for home economics. The time given to supervised study was much greater in home economics than in any of the other subjects. A median of 48 minutes a day was devoted to supervised study in those classes reporting it. Much of the time for supervised study in these classes was used to carry out carefully assigned directions.

Table XI shows the median amount of time devoted to supervised study in the different subjects each day in those classes reporting it and the median for all classes in each subject. The last column shows the total number of classes in which supervised study was one of the activities reported. This table shows the similarity of

practice in the different subjects. The medians for all classes in every subject except home economics range from 20 to 26 minutes

TABLE IX

DISTRIBUTION OF 8 CLASSES IN COMMERCIAL SUBJECTS ON THE BASIS OF THE AMOUNT OF TIME GIVEN DAILY TO SUPERVISED STUDY

Number of Minutes	Monday	Tuesday	Wednesday	Thursday	Friday	Total
60	1	.....	.....	.....	.....	1
55	.....	.....	.....	.....	.....	.....
50	.....	.....	.....	.....	.....	.....
45	.....	.....	.....	.....	.....	.....
40	.....	.....	2	.....	.....	2
35	1	1	.....	.....	.....	2
30	2	.....	.....	2	.....	4
25	.....	1	1	1	.....	3
20	1	2	.....	1	1	5
15	1	.....	3	1	3	8
10	.....	1	.....	1	.....	2
5	.....	.....	.....	.....	.....	.....
1	.....	.....	.....	.....	.....	.....
None reported	2	3	2	2	4	13
Total	8	8	8	8	8	40
Median of all classes	28	18	18	20	8	18
Median of those classes reporting time	33	24	23	25	18	24

TABLE X

DISTRIBUTION OF 8 HOME ECONOMICS CLASSES ON THE BASIS OF THE AMOUNT OF TIME GIVEN DAILY TO SUPERVISED STUDY

Number of Minutes	Monday	Tuesday	Wednesday	Thursday	Friday	Total
55	1	.....	1	1	.....	3
50	2	.....	1	1	.....	4
45	.....	2	.....	.....	2	4
40	.....	.....	.....	.....	.....	.....
35	.....	.....	.....	.....	.....	.....
30	.....	.....	.....	.....	1	1
25	1	1	.....	1	.....	3
20	.....	.....	1	1	.....	2
15	.....	.....	1	.....	.....	1
10	.....	.....	.....	.....	.....	.....
5	.....	.....	.....	.....	.....	.....
1	.....	.....	.....	.....	.....	.....
None reported	4	5	4	4	5	22
Total	8	8	8	8	8	40
Median of all classes	13	0	8	10	0	0
Median of those classes reporting time	53	46	35	40	46	48

daily. There was considerable variation from day to day, however. In general, the largest amount of time was used for supervised study on Monday, while there was a tendency to use less time for that purpose on Friday.

When these data were presented to the faculty for consideration, many interesting and important questions were raised as to what the practice really should be. It was voted by the faculty to study the problem further and to continue the hour period for at least another year in order that more data might be available before deciding upon a final policy.

TABLE XI

MEDIAN AMOUNT OF TIME GIVEN DAILY TO SUPERVISED STUDY IN THE DIFFERENT SUBJECTS IN THOSE CLASSES REPORTING IT—507 CLASSES

Subject	Monday	Tuesday	Wednesday	Thursday	Friday	Median of All Classes	Total Number of Classes
English	30	26	27	27	21	26	158
Foreign language	19	22	18	21	22	21	76
Social science	24	24	24	26	27	25	105
Natural science	23	23	31	22	25	24	39
Mathematics	20	20	24	19	17	20	84
Commercial subjects	33	24	23	25	18	24	27
Home economics	53	46	35	40	46	48	18

CONCLUSIONS

1. There was variation between subjects in the use that was made of the time in the class period. In English, mathematics, foreign language, and commercial subjects the usual practice was to have the assignment as the first activity. This was followed by the recitation and then supervised study. In social science the order in which the assignment and the recitation occurred was not determined by any regular policy. In natural science and home economics the procedure was uniformly the recitation, the assignment, and then supervised study.

2. In all subjects the time set aside for supervised study was usually in the last part of the class period.

3. The median amount of time used for supervised study was fairly uniform for the different subjects, but there was great varia-

tion in the amount of time used in individual classes. The time varied from no time at all for this purpose to the entire period.

It may be of interest to compare the practice at the West High School with that found by W. M. Proctor[1] in forty-two high schools on the Pacific Coast. He gives the figures shown in Table XII.

TABLE XII

TIME DEVOTED TO RECITATION AND SUPERVISED STUDY IN 42 HIGH SCHOOLS ON THE PACIFIC COAST

Length of Period	Number of Cases*
60 minutes, divided 30-30	3
60 minutes, divided 35-25	1
60 minutes, divided 40-20	15
60 minutes, divided 45-15	1
63 minutes, divided 33-30	1
70 minutes, divided 40-30	4
70 minutes, divided 35-35	2
80 minutes, divided 40-40	1
85 minutes, divided 45-40	2
90 minutes, divided 45-45	1

* Of the remaining schools, six employed a study coach; two had special conference periods; three had other special methods.

4. There is need of evaluating objectively the results secured with supervised study under varying conditions. A survey of conditions during the present year will be made in order to discover what the situation is after a year of further experimental trial.

5. The results suggest the possibility that a rigidly divided recitation-study period may not be desirable, since the optimum division of time necessary for different subjects may not be at all the same.

[1] W. M. Proctor, "Supervised Study on the Pacific Coast," *School and Society*, VI (September 15, 1917), 326–28.

HIGH-SCHOOL MARKING SYSTEMS

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The purpose of this article is to present data concerning the marking systems used in several hundred of the high schools of Illinois, to point out certain significant facts revealed by these data, and to offer a few suggestions as to how the situation may be improved.

The data were secured from 281 schools in the state of Illinois. This number includes about four-ninths of all the four-year public high schools in the state. Because this is a fairly large percentage of the schools and because the schools included are well distributed both geographically and according to size,[1] the data obtained may be considered fairly representative of conditions in the state as a whole. The information was secured in the autumn of 1924 by means of a brief questionnaire filled out by the principal or superintendent, supplemented by an inspection of the complete high-school records of the senior class. Therefore, it may be considered reliable and accurate.

The first step in tabulating the data was to classify the schools according to the kind of marking system used, taking account of all minor variations. On this basis there are almost one hundred different systems in use in the 281 schools from which data were obtained. Many of the variations, however, are very slight. For example, one school uses the marks S, E, G, F, and D, defining them in terms of percentages as follows: 95 to 100, 86 to 94, 80 to 85, 75 to 79, and 0 to 74, respectively. In another school the same letters are used, but they are defined as equaling 95 to 100, 88 to 94, 81 to 87, 75 to 80, and 0 to 74, respectively. To cite a second example, a few schools have a passing mark of 75 and condition pupils at 73, where-

[1] At least one-third of the high schools in each geographic and size group are included in this study, the geographical division being in three sections—northern, central, and southern—and the division on the basis of enrolment in five classes—1,000 or more, 500–999, 300–499, 100–299, and 1–99.

as other schools pass at 75 but condition at 74. To give still another example, some schools use A, B, C, and D as passing marks and E as a failing mark, whereas other schools use the same passing marks but F for failure.

Although these very minor differences are confusing when one must deal with marks from a number of schools, in many cases two or more marking systems are so nearly identical that for practical purposes they may be considered the same. For example, the last two systems mentioned in the preceding paragraph are, to all intents and purposes, the same. Also an S, E, G, F, and D system and an E, G, M, F, and D system may be grouped together. Making such combinations as seem justified on this basis, the almost one hundred systems may be classified in twenty-eight groups. These twenty-eight groups differ from one another in that they represent either real variations in the actual systems or marked differences in the symbols used. It is possible to make still further combinations by neglecting the latter. For example, some schools make use of a system in which A, B, and C are passing marks and D or perhaps F the failing mark; other schools use E, G, M, and P; still others use 1, 2, and 3 as passing marks and 4 as a failing mark. Although such systems differ in the symbols used, there is no real difference in their application, since in each instance the pupils doing passing work are divided into three groups, and all the failing pupils are given the same mark. After making combinations in such cases, the marking systems used fall into the groups shown in Table I.

It will be noticed that in this table the systems are first grouped according to whether they are percentile or not. There are 206, or almost three-fourths, of the 281 schools which make use of percentile systems, whereas only 75 schools employ letter or figure systems. The schools having percentile systems are further classified according to the passing point. More than one-fourth of them have 70 as the passing point; almost three-fourths, 75; and just one school has 80. Still further, they are classified according to their practice with regard to conditioning pupils.

The group of letter or figure systems includes three main types. One of these uses the first letters of the alphabet, that is, A, B, C, etc.; another makes use of the initial letters of such terms as "supe-

rior," "excellent," "good," "fair," and "poor"; the third employs figures, beginning with 1. The grouping is also according to the number of such marks used. This takes account not only of the number of actual letters or figures used but also of the plus and minus signs used in connection with them. A marking system which employs,

TABLE I

MARKING SYSTEMS IN USE IN 281 ILLINOIS HIGH SCHOOLS

Kind of System	Number	Per Cent
Percentile (marks given in actual percentages):		
Pass at 70:		
No conditions	40	14.2
Condition at 60, 65, 67, 68, 69, or indefinite	16	5.7
Pass at 75:		
No conditions	81	28.8
Condition at 70	38	13.5
Condition at 60, 65, 72, 73, 74, or indefinite	30	10.7
Pass at 80, no conditions	1	.4
Total	206	73.3
Letters or figures (A, B, C, etc.; S, E, G, F, P, etc.; 1, 2, 3, etc.):		
3 passing, 1 failing, marks:		
Without + and −	8	2.8
With + and −	5	1.8
3 passing, 2 failing, marks, without + and −	1	.4
3 passing, 1 conditioned, 1 failing, marks, with + and −	14	5.0
4 passing, 1 failing, marks:		
Without + and −	22	7.8
With + and −	3	1.1
4 passing, 1 conditioned, 1 failing, marks:		
Without + and −	4	1.4
With + and −	6	2.1
4 passing, 2 failing, marks, with + and −	2	.7
5 passing, 1 failing, marks, without + and −	3	1.1
5 passing, 1 conditioned, 1 failing, marks:		
Without + and −	5	1.8
With + and −	1	.4
7 passing, 1 failing, marks, without + and −	1	.4
Total	75	26.7
Grand total	281	100.1

for example, three passing marks and one failing mark with plus and minus signs is in reality making use of twelve marks and is therefore decidedly different from a system which has three passing marks and one failing mark without plus and minus signs. The figures in the table show that there are decided variations in the number of letters or figures used. The most common practice is to use four passing marks and one failing mark without conditions. Twenty-five high

schools, or one-third of all those using letter or figure systems, follow this practice; twenty-two of the twenty-five do not employ plus and minus signs. The number of letters or figures used ranges all the way from three passing marks and one failing mark to seven passing marks and one failing mark, not counting the marks resulting from the use of plus and minus signs.

A glance at the whole table shows that by far the most generally used system is the percentile system with 75 as the passing mark and no conditions. Eighty-one schools, or about 29 per cent of all those included in the investigation, follow this plan of marking. Almost one-half as many use the percentile system with a passing mark of 70 and no conditions. At the other extreme, there are several of the letter and figure systems employed by only one high school each, and still other systems are used by only two or three schools each.

In addition to the facts revealed by the table, there are certain others that are worth mentioning. Of the 75 schools using letter or figure systems, about two-thirds make use of the first letters of the alphabet; about one-fifth use letters that are abbreviations of descriptive terms; and the remaining schools use figures.

A fact that can be determined from the table but is not shown directly is that almost three-fifths of the schools using letters or figures do not make use of plus and minus signs. Thus it appears that a small majority of opinion is against the use of such signs.

One hundred and fourteen, or about 40 per cent, of the 281 schools give conditions. The circumstances which result in these conditions are many and varied. The most common conditioning mark is one of from 70 to 74 in connection with a passing mark of 75. In other schools which have a passing mark of 75 conditions are given for marks of from 60, 65, 72, 73, or 74 up to the passing mark. In the schools in which 70 is considered passing, conditions result from marks between 60, 65, 67, 68, or 69 and passing. There are also some schools in which there appears to be no definite mark which results in a condition. In these schools a teacher may, under certain circumstances, report a pupil who makes a high failing mark as conditioned instead of failed. Although about 40 per cent of the schools report that they give conditions, it is apparent from the other information furnished that in many cases these are hardly

true conditions. In some cases they seem to be equivalent to a mark of incomplete and to be given only when pupils, through absence, miss a portion of the work which they are expected to make up later. In a rather large number of cases they are given only in connection with the work of the first semester, and their removal in each case depends on the pupil's doing work of such a high quality during the second semester that his average for the year is passing or higher. This practically amounts to giving credit by the year rather than by the semester. In some schools conditions are limited to certain subjects and in a few cases to certain classes. In several schools only Freshmen are given conditions; in one or two schools Seniors are never conditioned. It appears that the number of schools in which conditions are given to pupils present throughout the semester and carrying subjects on the semester basis rather than on the year basis is small, probably not more than 10 per cent of all those included.

Another point of variation between the schools is that some of the schools using letters define them in terms of percentages. About three-fifths of the schools in this class give this percentile definition. It appears that in some cases this is only for the guidance of the teachers, but, in most instances, pupils, parents, and anyone else can secure this information. The percentile values are usually expressed as ranges; for example, A equals 90 to 100; B, 80 to 89; C, 70 to 79; etc. Occasionally, however, letters are given definite percentile meanings. Thus, A may equal 95; B, 85; and C, 75. As was illustrated by an earlier example, schools which use the same letters and which define them in percentages very frequently define them differently. A few schools which give no percentile equivalents for their letters state their passing marks in percentages.

One of the questions asked concerned the application of the normal frequency distribution to marking. About one-sixth of the schools report that some attention is paid to such a distribution. In about one-fourth of these schools approximate agreement with a normal distribution appears to be required; in the other three-fourths it is only suggested. In a number of instances it is stated that if marks do not conform to the normal distribution the teacher is required to explain the variation. In most of the cases in which some

attention is paid to the normal distribution five marks or groups are used. Seven definite distributions of this sort are mentioned by different schools, in addition to two distributions which include only three groups. These are shown in Table II. The distributions followed by a number of the schools are not indicated. Two or three of the replies state that the marks are expected to fall within certain limits. In addition to these schools, forty-five in number, which pay some attention to securing a normal distribution of marks, there are six other schools which provide that not more than a certain percentage of pupils shall be failed or given high marks.

In the original tabulation the marking systems were grouped according to the section of the state and the size of the school. Since

TABLE II

PERCENTAGES OF PUPILS IN EACH GROUP ACCORDING TO THE VARIOUS SUGGESTED DISTRIBUTIONS OF MARKS

Distribution	Group 1	Group 2	Group 3	Group 4	Group 5	Total
1	10	20	40	20	10	100
2	7	18	50	18	7	100
3	5	20	50	20	5	100
4	5	24	42	24	5	100
5	10	15	50	15	10	100
6	9	21	41	22	7	100
7	2	18	60	16	4	100
8	.....	20	60	20	.....	100
9	.....	25	50	25	.....	100

only a few significant differences were found, these will be mentioned here rather than shown by means of a table. The only differences according to sections of the state large enough that one can be sure they are not due to chance are in the passing point in those schools using percentile systems. In all three sections of the state the schools which have a passing point of 75 are decidedly in the majority, but this majority is greater in the southern section than in the central section and greater in the central section than in the northern section. The respective percentages which the schools having percentile systems are of all schools are 82, 74, and 68.

Two or three significant differences exist between the schools of different sizes. One of these is that a greater proportion of large schools than of small schools make use of letters or figures. The per-

centages of all schools which have letter or figure marking systems are as follows, beginning with the largest schools, 60, 31, 23, 31, and 19. Closely connected with this is the fact that none of the letter systems of the schools included in the two largest groups according to size of school involve the plus and minus signs, whereas more than one-half of the letter systems in each of the other three groups of schools include these signs. Putting these two facts together, it is apparent that, on the whole, the larger schools have the simpler marking systems. Another fact evident from the original tabulation is that there are fewer minor differences among the systems used in the various large schools than are found among the systems in the smaller schools. Thus, from the standpoint of both uniformity and simplicity, conditions in the larger schools are better than conditions in the smaller schools.

Another fact shown by the data is that more of the large schools than of the small schools pay some attention to securing a normal distribution of marks. The percentages of schools which attempt a normal distribution, in the order of the size of the schools, are 36, 27, 35, 23, and 7. It is very probable that this condition and also the tendencies mentioned in the preceding paragraph result in part from a greater continuity of administration and supervision in the larger schools. In many of the smaller schools the principal and the superintendent change every few years, as do many of the teachers; continuous and well-considered policies, therefore, are less likely to be in effect. Another explanation is that, on the whole, the level of teaching and administrative training and ability is higher in the larger schools; therefore, better marking systems are adopted.

The one outstanding fact revealed by the whole study is that a great diversity exists. One need only secure data from high schools in other states to show that Illinois is in no way peculiar or extreme in this respect. Neither is the condition limited to high schools. Normal schools, colleges, and universities likewise exhibit a wide variety of marking systems. Anyone who has had experience in the field of education must be aware, to a greater or lesser degree, of the confusion and trouble caused by the variations in practice in this respect. Pupils transfer from one high school or college to another or come from many high schools to some institution of higher learn-

ing, and the principal, the registrar, or some other official is confronted with the task of interpreting marks which differ much in their meaning. Even though the marks are accompanied by an explanation of the system used, it often involves considerable labor to get at their meaning in terms of the marks used in the institution which the pupils enter.

The conclusion which the writer wishes to emphasize is that it would be advantageous if uniformity or a close approach thereto could be introduced in place of the existing diversity. He believes that it would be a very practical forward step if some organization, such as the North Central Association of Colleges and Secondary Schools, would approve a single marking system and endeavor to secure its general adoption. If this organization would approve such a system and require all institutions belonging to it to adopt this system, it is probable that most of the institutions in the same portion of the country which are not members would in time come to employ it.

Since it has been suggested that a single system should be adopted, it is perhaps not out of place to suggest the details of a desirable system. Although it appears that a large majority of those in charge of high schools think otherwise, the writer very strongly believes that the ideal system is one which uses letters. He would recommend the use of three letters—A, B, and C—as passing marks and the use of two letters—D and E—as failing marks. Pupils who pass should be placed in one of three groups. The largest, or B, group should contain those who do about average passing work; the A and C groups, those doing work above and below that quality. There should be two failing marks so as to separate those who come rather close to passing from the other failing pupils. Thus a pupil who has done his best or approximately so and has failed may know whether it is probable that he can pass in the subject by repeating it. A mark of D would indicate that he could probably pass; a mark of E, that he probably could not pass. Furthermore, the writer believes that the use of plus and minus signs is not desirable. An occasional pupil, however, who does almost perfect work should receive A+, and a pupil who just barely passes should receive C−, to indicate the fact. The letters should not be defined in terms of percentages; neither

should conditions be given. Some mark, perhaps "Inc" for incomplete, should be given to pupils who have been out of school a considerable portion of the time and are expected to complete the work later. In the case of pupils who complete the work definite passing or failing marks should be given. The writer believes also that some attention should be given to the normal curve of distribution in assigning marks. The following limits are suggested:

Mark	Percentage of Pupils
A+	0 to 2
A	5 to 20
B	40 to 60
C	10 to 25
C−	0 to 5
D, E	5 to 20

It should be understood that these limits are not to apply to a single class, especially if the class is small, but to the general distribution of marks given by a teacher or to a large group. Any considerable variation in the case of a single class should probably be accompanied by an explanation. However, it may happen that in a small class no pupil should receive an A or that no pupil should fail. In short, marks should not be given mechanically according to a normal curve of frequency; due allowance should be made for circumstances.

TEACHING "HOW TO STUDY"

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At the beginning of the second semester of the school year 1923–24, it seemed necessary to introduce a one-semester course in "How to Study" at the Oread High School, an experimental school maintained in connection with the School of Education of the University of Kansas. It was with much misgiving that the writer consented to attempt to teach such a course. According to his educational philosophy, training pupils in right study habits is one of the major objectives of the secondary school and therefore the business of every high-school teacher. It is impossible, however, for every teacher to function effectively as a director of right study habits in a school that is not committed as a whole to some form of directed study. As a result, such a school must fail in a large measure to attain one of the fundamental objectives of secondary education.

The writer well remembers the course in "How to Study" which he took as a college Freshman. Lessons were assigned in McMurry's *How to Study and Teaching How to Study*, and during the class period the teacher tested the class to see how well the students remembered what they had read. The writer resolved to organize the course which he was asked to give on a different plan. In preparation for the work, the first step was to make a list of the study skills and abilities that seem to be most necessary for effective study.

The following list is simply a collection taken from books dealing with the problem of study and accumulated in various courses in education.

1. Skill in reading.
   a) The student should be able to read fairly rapidly, to vary the rate of reading, and to comprehend what is read.
2. The habit of reading with a specific purpose.
3. The ability to organize ideas.
   a) The student should be able to pick out facts bearing on the problem in mind, to neglect unimportant details, to make summaries of various

kinds, to make outlines, to see and show the relation between each part and the main problem under consideration and in this manner to advance his knowledge by groups of facts rather than by a long list of isolated facts of seemingly equal value.

4. The habit of supplementing thought by asking questions of one's reading, etc.
5. The ability to judge the soundness and general worth of statements.
   a) The reliability of the author, the credibility of statements, etc., must be considered.
6. The ability to use the most effective methods in answering the different types of thought questions.
   a) The different types of problems must be fixed in mind, and the best method of solution of each type must be mastered.
7. The habit of keeping a tentative attitude toward knowledge.
   a) The student must be open-minded, must not be hasty in generalizing, and must not make unsupported assertions.
8. A knowledge of when and how to memorize.
9. The ability to take notes—both lecture notes and reading notes.
10. The ability to decide what type of study a given assignment calls for.
    a) Most assignments call for memory work, drill work, or problem-solving.
11. The ability to use a library effectively.
12. The ability to apply one's self to intellectual labor for a long period of time.
13. The ability to use ideas.

Practice in most of these study skills and abilities can be best given in the study of material of the science type. Topics 2, 3, 4, 5, 6, 7, 8, and 13 were taken up, therefore, as units for study under appropriate technique for the science type of learning. The other skills and abilities were considered throughout the course, and training was given at appropriate points. It must not be understood that learning to study is a kind of learning that belongs to the science type, for it belongs to the language-arts type of learning; that is, we add to our study skills and abilities by studying. It follows that in this class we had to select something to study; so we used for the regular class period study material bearing on the proper methods of acquiring the particular ability under consideration. Thus, the students worked with material bearing on the organization of subject-matter when they were getting experience in actually organizing subject-matter.

When any skill or ability was taken up for direct consideration for the first time, an effort was made to determine the extent to

which the particular skill or ability was already functioning. This involved the use of a variety of tests, both formal and informal. In testing for comprehension in reading, the following tests were used: the Thorndike-McCall Reading Scale, Monroe's Standardized Silent Reading Test, and Van Wagenen's Reading Scales. Monroe's test is a test for rate of reading as well as for comprehension. Thorndike's Visual Vocabulary Test was also used. Other vocabulary tests, modeled after Thorndike's test, were devised and used.

In testing the ability to read different types of material, many informal reading tests were devised and used. For teaching purposes, these informal tests are very valuable. In these tests a certain type of material was given to the class to read. The students' rate of reading was determined by having them mark the word they were reading at the end of a minute. Their comprehension was determined by dividing the number of thought units they were able to reproduce after one reading by the entire number of thought units in the selection. This gives a percentage which is sometimes called the "comprehension index." The results of each test were shown in either tabular or graphic form. There are a number of interesting things, aside from rate and comprehension, that can be noted in a test of this kind. The chart may contain such items as "comprehension index," rate of reading, number of words used to express one idea, orderliness of ideas expressed, tendency to miss ideas at the beginning of a selection, tendency to miss ideas in the middle of a selection, and tendency to miss ideas at the end of a selection. Tests will yield their utmost value only when such detailed analysis of the results is employed.

When the class came first to the direct consideration of memory, a selection was assigned to each member of the class to memorize in the classroom in directed study. The time required for each individual to memorize the selection was noted. After the memorization was complete, each student was asked to write an account of the method that he used in memorizing the selection.

For each ability some kind of a test was devised to enable the teacher to get an idea of the students' skill in doing that particular thing. Most of the tests, of course, were informal, but they served to give the teacher some idea of the course that he needed to follow

in teaching. They, at least, made a good starting-point for further diagnosis. Through the use of group tests of this nature the cases needing special consideration were isolated for individual diagnosis.

After a test had been given, the teacher scored the test papers immediately and devised some sort of tabular or graphic method of effectively representing to the group just how each individual stood with reference to the whole group and also with reference to a larger group, if the test happened to be standardized. The entire class was always taken into full confidence, and everyone faced the facts. If the information regarding the standing of the various members of the class is properly presented, it is possible to create an entirely new attitude toward tests. The teacher must not proceed as follows: "In the test that we had yesterday James made a score of 105 and John made a score of only 89. This means that James is intelligent and that John is not. James will likely make a name for himself some day. John will probably not learn much, but we will do the best we can for him." Rather, the teacher must have the results of the test thoroughly analyzed. It will be much better if he proceeds somewhat as follows: "The test that we had yesterday is some indication of your ability to do such and such things. The results of the test indicate that James is weak in this particular and that John is weak in this and this. There are good methods to follow in doing work like that required by the test. We are going to try to find out just what the best methods are and then learn to do our work that way. After a while John will very likely be able to pass as good a test as James."

As the course progressed, a considerable amount of data concerning each student was accumulated. It is important to get all of the data for each student on a separate chart. The data must be in such a form that they will be easily understood by the pupil or his parents. I.Q.'s, achievement age, mental age, etc., may be all right for school authorities, but they do not mean much to the average student or his parents. If Mary's parents are told that in rate of reading her score is just about the same as the average score made by pupils in the eighth grade, they can understand. They can also understand if told that in comprehension Mary ranks in the quarter of the class that is second from the top or that she ranks in the lowest

quarter of the class. A chart showing these facts is found very serviceable for teaching purposes.

After the test results have been made known to the class, most of the students will be in the proper state of mind to be shown better methods of work. It is important to follow the feeling of insufficiency on the part of the class, which comes after the analysis of test results, with a vigorous lecture setting forth the important principles involved in the better methods. This lecture must not be given in a halting, hesitating manner but must be forceful and well-organized and delivered with all of the instructor's available energy and skill.

This is the best stage for giving training in taking and writing up lecture notes. At the beginning, it is well to take time to give careful directions about how to take notes and write them up. The notes should be scored and the results used as a basis for further teaching both with regard to proper note-taking and with regard to the topic under consideration. Under such a procedure, training in listening to lectures will continue throughout the course. This training will be of great value to the students when they enter the university.

This phase of the procedure was followed by a period of practice in the particular ability. This means directed study. When the ability to organize was under consideration, assimilative material bearing on that subject was provided, and study directions were given which would lead the students into the necessary experiences involved in organizing that unit. If the topic for immediate consideration was a study of the best methods of answering the various types of thought questions, the students were given experience in using the best methods by actually working out answers to the various types of questions. Thus, they became familiar with the different types of questions as well as with correct methods of answering. As a class works through a unit in this manner, the individual assignments become more and more specific as the needs of each individual are more definitely determined.

During the periods of directed study, an admirable opportunity was presented to give training in sustained application. Long lists of study directions pasted in the back of textbooks at the beginning

of the year are of little value. The only way to give such training effectively is to have control of the learning situation while the students are studying. All, of course, did not need such training. Those who did not have the ability to give sustained attention were soon identified. These students were watched, and "pictures" of how they worked were made on the Chicago Sustained Application Profile Sheet.

Figure 1 shows the profile of a student who evidently does not need training in sustained application. In Figure 2 we have evidence of the need of training. After a few "pictures" similar to the one shown in Figure 2 were obtained for an individual, a conference was held, and the student was shown just how he worked at a particular time. This technique is very effective because the students realize that the teacher is not dealing in general terms but really has evidence.

At the end of every unit worked through in supervised study, the students were expected to organize the unit in the form of a topical outline, sentence outline, or summary. Thus we see that training in ability to organize did not stop with the direct consideration of the ability to organize knowledge. Training and testing did not stop with the hour of directed study in the classroom.

At the beginning of the course it was agreed that if a student mastered the work given the entire class in supervised study, he would be given a passing grade, namely, D. A higher score depended on evidence that the work in directed study was really being applied outside of the directed-study period; that practice in the study abilities in which a student had shown himself to be weak was being carried on independently outside of the regular study period; or that "intellectual independence" was being demonstrated by the working out independently, except for directions given by the teacher in conferences, of special projects in which the student was especially interested. It was to work of this nature that a student gave his attention during the regular class period if he showed the mastery of a unit ahead of the class as a whole.

Some of the ways in which class members could make application of what they were learning were as follows: make out questions in some other subject regularly for six weeks or longer; outline the work

in some other course for six weeks or longer; keep a list of supplementary problems in some other course for six weeks or longer; keep a list of the questions that come to mind in reading and study; keep account of the things thought about in connection with some course in school for six weeks or longer; etc.

When a student was found to be a very slow reader, he undertook, as one of his special problems for the remainder of the year, the task

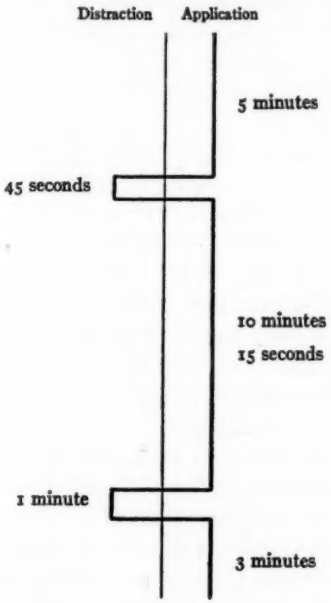

FIG. 1

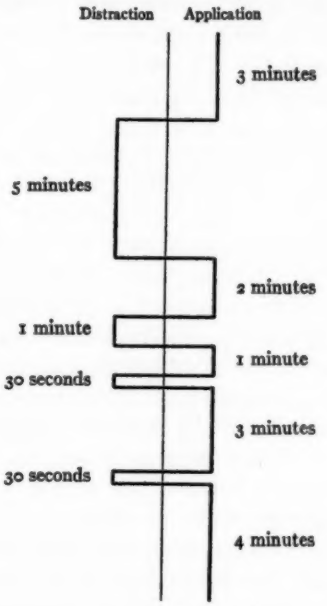

FIG. 2

of checking himself up regularly on his reading rate. The same type of material was used for each test, so that some idea could be obtained of the progress made. These results were gone over in conference, and modifications were made in the training as a result of the evidence obtained. This is just one example of the work of this type that was carried on. Other work of this nature included a test of comprehension twice a week for six weeks or longer, an attempt to increase ability to work at a high level of attention by regular checks outside of the directed-study period for a six-week period, an at-

tempt to increase the general vocabulary or the vocabulary in some special field by learning one new word every day, etc.

A variety of possible subjects for special project work were proposed. Many were interested in psychology, and for these such subjects as attention, the brain and the nervous system, mental development and motor training, habit, sensation, perception, mental images and ideas, imagination, association, thinking, heredity, intelligence, etc., were offered. In working through a special project, certain definite steps were taken, and the student was checked at each step. The steps were as follows: (1) selection of topic, (2) list of things already in mind about topic, (3) rough plan of what will have to be done in working out the project, (4) complete bibliography, (5) list of problems under which notes are to be collected, (6) rough notes, (7) detailed outline, (8) final written report, and (9) oral report. In this work a splendid opportunity was offered for giving training in note-taking for the preparation of a report. All of the students were given training in the use of a library and were given actual practice in the University of Kansas library. Finally, training in oral expression was given in the oral reports of special project work and in the oral recitations that were held at the close of the study of each unit. This is one way of using knowledge that has been assimilated and thus completing the learning cycle.

Taking the country over, there are not many classes in "How to Study." If this article were applicable only to them, it could not be justified. It is the writer's judgment, however, that such training can be most effectively given in connection with the different school subjects. All teachers should be students of mental processes. If we are able to develop the skills and abilities here indicated, we need not worry about the fate of our students when they reach the university. Such training is also the thing that will contribute most of all to the development of the right kind of citizens for a democracy.

WHEN IS A FAILURE NOT A FAILURE?

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At the Bingham High School we are attempting to determine some of the factors which make for success or failure in school work. Our study is still in its infancy, and we have no final report to make at present. However, certain phases of the study may be of general interest.

Early in the present school year the teachers were asked for lists of the pupils who were failing in their courses. The reports showed a total of ten failing pupils in the ninth grade.

In an attempt to determine why these pupils were failing, they were given the Terman Group Test of Mental Ability. This test was followed by the Thorndike-McCall Reading Scale, the Woody-McCall Mixed Fundamentals, and the Morrison-McCall Spelling Scale. In the case of each pupil the results of these tests were reduced to common denominations by converting them into sigma indices, which were then recorded on a Sigma Index Record Card. The card thus showed what the pupil had done in each subject in terms of what he was capable of doing.

The record of one pupil was as follows: intelligence, 84; reading, 83; spelling, 89; mixed fundamentals, 85; and arithmetic reasoning, 84. It is evident that while this pupil was doing unsatisfactory work as compared with the average pupil, he was doing as well as could be expected of a pupil of his capacity. This is shown by the fact that the results of his accomplishment tests were parallel with the results of his intelligence test.

This record is typical of the records of the other nine pupils. Thus it is seen that when these pupils were compared with the average pupil of the class they were failures, just as the teachers reported them. On the other hand, when each pupil's accomplishments were compared with his capacity, it is seen that he had done satisfactory work.

What are we to conclude from this study? Our major conclusion is that we have called pupils failures who have done approximately as well as they are capable of doing. Why have they been called failures? Because they have failed to keep up with pupils who have much greater capacities than they—pupils who are capable of doing two or three times as much work.

We may next inquire, Are such pupils failures? In the sense that they have not done the task assigned them—that is, the work which is done by the average pupil of the ninth grade—they are failures. In the sense that they have done well in proportion to their capacity, they are not failures.

At this point it seems necessary to consider just what education hopes to do for the individual. Does education hope to enable all persons to develop at the same rate, or does education hope to take each individual as he is and enable him to develop as rapidly as possible with the capacity given him? Certainly education does not claim to be able to accomplish the first task. If it accomplishes the second task, it has done all that could be expected of it. We conclude, therefore, that the pupil who has done well in proportion to his ability should be counted successful, in spite of the fact that he may have failed as compared with other pupils.

It may be worth while to state briefly some of the general conclusions that this study has brought to our attention: (1) In order to determine the extent to which a pupil has been successful in his school work, his accomplishments should be compared with his own ability, not with the accomplishments of other pupils. (2) A knowledge of the pupil's capacity is necessary if we are to give him credit for what he has done in terms of what he is capable of doing. (3) A thoroughgoing standardized testing program is necessary in order to determine the capabilities of each pupil. (4) Pupils should be grouped with pupils of similar ability instead of with pupils with I.Q.'s ranging from 75 to 140. (5) Instead of one course of study for all pupils of a given grade, there should be a course of study for every group within the grade. (6) Promotions should be made on the basis of what pupils have done in comparison with what they are capable of doing; their accomplishments should not be compared with those of other pupils on the one hand nor with a course of study on the other hand.

INDIVIDUAL GUIDANCE IN VOLUNTARY READING

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Even in this day of the radio and the motion picture, almost all normal boys and girls do more or less voluntary reading quite irrespective of school requirements and activities. Some of the voluntary reading is in newspapers, some in magazines, some in books. For the most part, such reading proceeds with little guidance or hindrance from the home, the school, the church, or the library.

For the purpose of discovering the character of the voluntary reading of ninth-grade pupils and with the hope of guiding such reading, wherever necessary, into channels distinctly worth while, an attempt at individual guidance was begun in the University High School in the autumn of 1923. The pupils who were not enrolled in regular English courses were assigned to teachers interested in the problem and were informed that they were listed for "English Conference." With very few exceptions, no group meetings were held, and no hour in the time schedule of the school was set apart for conferences. As a rule, conferences were held with individual pupils every two weeks during periods when they were not engaged in class work.

The attempt at guidance was attended by vigorous efforts to avoid overpersuasion, undue influence, or any kind of pressure upon the pupils with regard to their reading. It was felt that the purpose in view would be defeated if the reading ceased to be voluntary and became in any sense required. Hence, aside from an obligation to confer with the teacher when a summons was received, no requirements were made of the pupils, and no credit was promised for the reading done. The pupils were merely told that the teacher was interested in the reading which they did when they followed their own inclinations with no thought of school or school work.

At the initial conference the pupil was asked to fill out an information card giving data on the following items: age, courses being

taken, hobby or hobbies, favorite subject or subjects of study, reading done during summer vacation, favorite books, voluntary reading under way, newspapers and periodicals ordinarily read or examined, and the kind of reading preferred. In the case of the pupil who was doing no outside or voluntary reading the suggestion was usually made that he browse among the books in the library until he found a volume which looked interesting to him and that he then read in the book in so far as his time permitted and his interest dictated. A pupil engaged in reading something of no particular value was told about several books dealing with kindred subject-matter but possessing genuine intrinsic and literary merit; the suggestion was then made that he read parts of the books named to see if he liked them. A pupil already engaged in reading something worth while was encouraged to continue.

Subsequent conferences, usually from ten to fifteen minutes in length, ordinarily consisted in discovering what a pupil had read; in discussing his reading with him in a very informal way; in exchanging opinions with him about books, authors, characters, and incidents; and in suggesting further reading. Sometimes the books suggested were along the same general line as those which the pupil had been reading; at other times books were named of a very different type, the character of the suggestion depending on the nature of the pupil's interests and his past reading. Throughout, an effort was made to widen the point of view and the reading interests of the pupil. For example, if his reading had been limited to imaginative stories portraying adventure or mystery, his attention was called to stirring books on travel or to graphic biographies or autobiographies. If his reading had been confined to stories of boarding schools or boy scouts, an attempt was made to awaken his interest in books like Stevenson's *Treasure Island*, Wiggins' *Rebecca of Sunnybrook Farm*, Richmond's *The Second Violin*, Burr's *Around the Fire*, or Cooper's *The Last of the Mohicans*.

If the pupil had read little or nothing, an attempt was made to discover the cause or causes for the lack of reading, to learn how the leisure time of the pupil was spent, and to arouse an interest in, and a liking for, the printed page. In this effort, stories about books and about people who write and even the occasional reading aloud of

passages in books which the teacher believed would awaken the interest of the pupil proved helpful. Studies were made of the general intelligence of the pupils and of their ability in both oral and silent reading. Naturally, the information cards were valuable aids in suggesting methods of procedure in the case of the few pupils who seemed never to have felt the lure of books.

The instructor kept a record of each conference. This record included the titles of the books suggested, the habits discovered, the opinions expressed, and the reactions noticed. The nature of the conferences and of the results obtained may be seen from the following descriptions of typical pupils:

Pupil A.—Girl, age 14 years; stands in the third[1] quarter of her class according to intelligence test; stands in the first quarter in oral reading and in comprehension (Monroe test); stands in the fourth quarter in silent reading (Burgess) and in reading rate (Gray). Although she says that her hobby is reading, her favorite books being boarding-school stories, she read nothing during the summer vacation and for several weeks after the opening of school did practically no reading outside of class requirements. She began to read *Ben Hur*, became interested in it, and finally finished the volume. She then read Hugh Walpole's *Jeremy* and said that she wanted to read the same author's *Jeremy and Hamlet*. Among the magazines which she "looks over but does not read" are *Harper's Magazine*, the *National Geographic Magazine*, the *Saturday Evening Post*, the *Cosmopolitan*, the *American Magazine*, and *Good Housekeeping*. She also scans the *Chicago Daily Tribune* and the *Chicago Evening Post*, confining her attention to "the funnies, the ads, the theater section," and, occasionally, "The Wake" (*sic*). On Friday or Saturday she often goes to the theater and occasionally to the movies. Her daily program follows:

7:30 or 8:00 A.M.	Rises
8:00 or 8:15....	Breakfast
8:45.....	School (she lives two blocks away)
3:30 P.M.....	Games or library
5:00.....	Goes home and "monkeys around"
6:00.....	Dinner and occasionally the washing of dishes
6:30.....	Looks over the newspaper
7:00.....	Home work (Survey, French, and mathematics)
9:30 or 10:00...	Bed

Pupil B.—Girl, age 14 years; in the second quarter of her class in reading ability, with the exception of oral reading in which she is in the lowest quarter. Her favorite study is French or mathematics, while her favorite books are the

[1] The first quarter includes those pupils ranking highest; the second quarter, those pupils ranking next to the highest; etc.

Babs series. She "loves to dance and read" and "just adores making things with her fingers, such as sewing, baskets, and paper flowers." Her voluntary reading since school began has been limited largely to magazine stories; during vacation she read "mysteries by Wells and Rinehart" and "also some of Dickens (which I didn't like)." She goes to bed regularly at 7:30 P.M.; she says that she has little time for reading, her voluntary reading, outside of magazines, consisting of a portion of Eliot's *The Mill on the Floss*. She glances over the *National Geographic Magazine*, the *Woman's Home Companion*, and the *American Magazine*—"reads a story a month, maybe." She did no voluntary reading in books until November 15. Since that date she has become interested in *The Mill on the Floss*, finally becoming enthusiastic about it.

Pupil C.—Boy, age 14 years; in the highest quarter of his class in oral reading and in reading rate, in the lowest quarter in silent reading (Burgess), and in the third quarter in comprehension (Monroe). His favorite books are dog stories. He drives a car. He has reported frequently that he has "no time to read." He was finally persuaded to try Franc's *A Vagabond Journey around the World* and Fabre's *Insect Adventures* but reported that he liked neither of them. At the last conference he said that he was re-reading Scott's *Ivanhoe* and was finding it interesting, although "it used to seem dry." He says that he is fond of the comics, sports, and "The Wake" in the *Chicago Daily Tribune;* he occasionally glances over the *American Boy*, *Life*, and the *National Geographic Magazine*.

Pupil D.—Boy, age 14 years; in the lowest quarter of his class in reading ability, except in oral reading, where he ranks in the third quarter. His indoor hobby is reading; his outdoor hobby, baseball or football. His favorite study is Latin. His favorite books are Johnston's *The Long Roll*, Stevenson's *Treasure Island* and *Kidnapped*, Conan Doyle's Sherlock Holmes stories, and Zane Grey's novels. He "likes stories of action." His voluntary reading includes *Scaramouche*, Werner's *Barnum* ("liked it so well I read it twice"), Stanley's *How I Found Livingstone* ("very interesting, one of the most stirring stories I have ever read"), Victor Hugo's *Ninety-Three* ("liked it much better than *Scaramouche* or *A Tale of Two Cities*"), and *The Hunchback of Notre Dame* (in part). He also reads in such magazines as the *American Boy*, *St. Nicholas*, the *American Magazine*, and the *Baseball Magazine* (usually reads all of it) and "looks into" *Good Housekeeping* and the *National Geographic Magazine*.

Pupil E.—Girl, age 14 years; ranks in the first or second quarter in reading ability; likes to read novels and short stories, her favorite books being O. Henry's stories, Dickens' *Great Expectations*, Pyle's *Men of Iron*, Mark Twain's *Tom Sawyer*, Eliot's *Silas Marner*, and Bennett's *Master Skylark*. She read generously during the semester, among the books read being the following: Hughes's *The Old Nest* ("not especially interesting"), Scott's *Ivanhoe* ("very hard reading"), Stevenson's *Travels with a Donkey* ("awfully good"), and Zollinger's *Widow O'Callaghan's Boys*. She also reads in the *Atlantic Monthly*, the *American Boy*, the *Saturday Evening Post*, the *Cosmopolitan*, and the *Literary Digest*.

Pupil F.—Boy, age 15 years; his hobbies are radio and music; his favorite books are Kipling's *Kim*, Longfellow's poems, and Synge's *In the Shadow of the Glen*. Early in the semester he became interested in Ruskin's *Sesame and Lilies* which he reported he "liked very much." From this volume he was led into Lamb's *Essays*. He also reports that he has read a number of plays—titles forgotten—and that he usually reads the articles, not the stories, in the *Saturday Evening Post*. He is "sorry that he has no more time for reading."

An analysis of the reading habits of the thirty-six pupils who came under the guidance of the writer shows that the pupils can be classified into three general groups: first, pupils who had good reading habits so far as content was concerned—twelve in number; second, pupils who read considerably but whose reading consisted chiefly of juvenile literature or the Zane-Grey type of novel—twenty in number; third, pupils who read little or nothing except in newspapers and the cheaper sort of magazines—four in number. In most instances improvement appeared in the quality of the voluntary reading which was done as the conferences continued.

The attitude of the pupils toward the experiment is worthy of note. In an effort to discover their impressions, the instructor asked all of the pupils who were willing to do so to write letters describing their voluntary reading and expressing their frank opinion of "English Conference." The following comments are quoted from these letters:

English Conference is a fine thing; it encourages the reading of good books for one thing, and that is very important.

I think that it is a splendid plan to supervise the Sophomores' reading. I feel that it is going to help me greatly.

In regard to English Conference, all I can say is that I look forward to it. I wish I had a conference every day instead of every two weeks.

I like the talks about what I have read, but I don't think I read enough to make them worth while. This is chiefly because I have so much school work.

I think it is a good thing to have someone to look after our reading, and I hope I get time to read more.

English Conference is very interesting; I think a person can get more out of the subject when the student sees the instructor in private than when he is in a group of students. I have enjoyed it.

No unfavorable comments were received.

THE PLACE OF SCIENCE IN THE SECONDARY SCHOOL. I

GEORGE W. HUNTER
Knox College, Galesburg, Illinois

The last decade has witnessed a new growth and a new spirit in secondary-school science. The increasing interest on the part of supervisors and teachers in testing the results of science teaching and the apparent numerical growth of science students led the writer to investigate the question of the sequence and the position of science in the secondary schools of the United States at the present time. The study was made in connection with certain investigational work which is being conducted by the School Experiment Division of the Institute of Educational Research, Teachers College, Columbia University.

About sixteen years ago a questionnaire was sent to five hundred leading public high schools in various parts of the United States, seeking information with regard to the sequence of science in the high school. Replies were received from 276 schools representing thirty-three different states. The findings of the questionnaire appeared in an article[1] published in *School Science and Mathematics*. In the autumn of 1923 the writer sent a second questionnaire to, so far as possible, the same schools that answered the first questionnaire and to about five hundred additional schools. These schools represent the best public high schools in large cities, small urban communities, and, in a few cases, townships or school districts. This second questionnaire was answered by 368 representative schools.

It is the purpose of this article to contrast in a brief way certain statistical information gathered from the two questionnaires and to draw such conclusions as appear tenable from the information thus obtained. Although the data secured were much more incomplete

[1] G. W. Hunter, "The Methods, Content and Purpose of Biologic Science in the Secondary Schools of the United States," *School Science and Mathematics*, X (January and February, 1910), 1–10, 103–11.

than was hoped for, an indication of the expansion of general science downward into the junior high school is seen. This development is much more evident in certain states and groups of states. Although relatively few of the 368 schools answering the questionnaire definitely mentioned the junior high school in their statistics, enough of a response was given to show that this institution is more firmly established in the North Central states than in any other division of the United States.[1] In the Middle states, New York and Pennsylvania appear to have done something with the junior high school movement. In the New England states, Massachusetts shows the most progress. In the Southern states, North Carolina appears to be by far the most progressive state, while in the far West, California stands out notably as a leader, if the rather meager reports mean anything.

The data received show that 14 schools give general science in the seventh grade; 4 schools, physiography; and 2 schools, geography. In the eighth grade 54 schools give general science; 15 schools, physiology; 2 schools, physiography; and 1 school, geography. Obviously, these figures are incomplete, but it is evident from the answers to the questionnaire that general science with a health background is the chief offering in science in the seventh and eighth grades. Seventy-five per cent of all indicated science courses in the eighth grade profess to be general science; 56 per cent of the science offerings in the seventh grade are general science. Of course, these figures do not show the real condition, since in most cities a distinct gap still exists between the so-called junior and senior high schools.

[1] Division of states was made according to the grouping suggested by T. Quincy Browne, Jr., in an article which appeared in the November, 1908, number of *School Science and Mathematics*. This grouping of states, although arbitrary, represents fairly well certain areas of somewhat like conditions. The grouping of the states is as follows: the New England states: Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, and Connecticut; the Middle states: New York, New Jersey, Pennsylvania, Delaware, Maryland, and the District of Columbia; the Southern states: Arkansas, Alabama, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Oklahoma, Tennessee, Virginia, West Virginia, and Texas; the North Central states: Ohio, Indiana, Illinois, Michigan, Wisconsin, Minnesota, Iowa, and Missouri; the Rocky Mountain states: North Dakota, South Dakota, Nebraska, Montana, Colorado, New Mexico, Utah, Kansas, Idaho, Arizona, Wyoming, and Nevada; and the Pacific states: California, Oregon, and Washington.

A comparison of the replies from the two questionnaires shows that there has been a gradual but healthy increase in the total number of science courses given in the four-year secondary school (Table I). In 1908, 276 schools reported 9 courses in general science; 166 courses in physiography; 641 in biological subjects, of which 73 were in biology, 193 in human physiology, 225 in botany, and 150 in zoölogy; 253 in chemistry; 267 in physics; and 35 scattering courses, including astronomy, geology, and sanitation. In 1923, 368 four-year schools reported 252 courses in general science; 138 courses in physiography; 672 in biological subjects, of which 311 were in biology, 165 in human physiology, 123 in botany, and 73 in zoölogy; 413 in chemistry; 426 in physics; and only 19 scattering courses.

TABLE I

NUMBER OF COURSES IN SCIENCE REPORTED

Grade	1908 (276 Schools)	1923 (368 Schools)
IX	360	453
X	317	442
XI	334	515
XII	360	510
Total	1,371	1,920

In the foregoing figures agriculture has not been included. There has been very great increase in the number of courses in agricultural science, but since such courses have been forced into high-school curriculums through the Smith-Hughes Act, the writer has felt that such growth is artificial and has not included them in the data given.

Table II shows that the percentage of courses in general science, biology, chemistry, and physics has increased in the four-year secondary school, while the percentage of courses in physiography, botany, zoölogy, and physiology and of courses in other sciences has decreased.

One reason for the smaller percentage of courses in botany, zoölogy, and physiology is that much of the material in these courses has been absorbed by the courses in general science or biology. Chemistry and physics courses have both relatively increased in number. The scattering offerings, many of them "book" courses, have greatly decreased in number.

A direct question asked in the second questionnaire was, "Do more or fewer students take biology, chemistry, and physics now

TABLE II

PERCENTAGE DISTRIBUTION OF SCIENCE COURSES IN EACH YEAR OF THE FOUR-YEAR HIGH SCHOOL—1908 AND 1923

Course	Grade IX	Grade X	Grade XI	Grade XII
	1908			
General science	2.5	.....	.....	.....
Biology	10.0	7.3	2.1	1.9
Botany	21.1	29.6	7.8	8.0
Zoölogy	7.5	26.5	6.6	4.2
Physiology	29.2	10.7	6.6	9.2
Chemistry	.....	2.5	28.4	40.5
Physics	.....	7.9	44.3	25.0
Physiography	26.1	15.5	1.8	4.7
Other sciences	3.6	.....	2.4	6.5
Total	100.0	100.0	100.0	100.0
	1923			
General science	53.9	1.8	.....	.....
Biology	16.1	47.1	3.1	2.7
Botany	4.2	17.4	3.1	2.1
Zoölogy	1.5	10.2	2.3	1.8
Physiology	13.5	8.8	6.8	5.9
Chemistry	.....	1.6	38.6	40.6
Physics	.5	2.5	41.4	39.2
Physiography	9.7	9.7	4.1	5.9
Other sciences	.6	.9	.6	1.8
Total	100.0	100.0	100.0	100.0

than fifteen years ago?" Of 355 schools, 274 answered unqualifiedly "more"; 27 qualified their answers; 15 could not answer definitely;

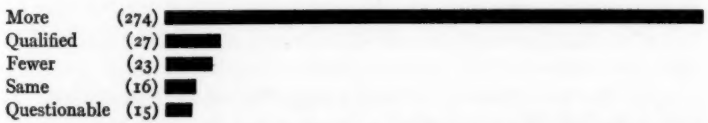

FIG. 1.—Summary of replies to question, "Do more or fewer students take biology, chemistry, and physics now than fifteen years ago?"

16 said, "About the same"; and 23 reported fewer students now than fifteen years ago. These data are shown graphically in Figure 1.

There is no lack of recent evidence from other sources that the foregoing figures, taken as a cross section of conditions in the large high schools, are duplicated in all parts of the country. A special report of the Bureau of Education, which appeared during the school year 1922–23, shows that in cities having a population of more than one hundred thousand, 16.32 per cent of the high-school pupils are enrolled in physiology and hygiene courses, 14.84 per cent in general-science courses, and 13.08 per cent in biological courses.[1] When it is noted that in these same schools traditional Latin enrols 23.33 per cent of the pupils and French and Spanish each a little over 21 per cent of the pupils, it is seen that a fair proportion of the pupils are becoming acquainted with the science subjects. Recent data obtained by a committee appointed to study conditions of science teaching in Minnesota show that between the years 1915 and 1920 there was a gain of 24.17 per cent in the number of science students. This gain took place entirely in three subjects—general science, biology, and chemistry—all other sciences losing ground. A more recent report, by Holmquist,[2] shows biology to be replacing botany and zoölogy in Minnesota with an increase in enrolment. Smith[3] shows that in the Elgin High School, Elgin, Illinois, science passed from fourth place in the curriculum in 1897 to second place in 1918 on the basis of the number of pupils enrolled. The New York State Regents reports show a steady gain in the number of pupils taking Regents examinations in elementary biology. In 1916, 24,857 pupils presented papers in biology, while in 1923, 47,702 presented papers in the same subject, an increase of 91.9 per cent. Other recent articles showing an increase in high-school science enrolment are that of Bolton[4] published in the *School Review* and that of Foster[5] published

[1] *School Review*, XXXI (October, 1923), 564.

[2] A. M. Holmquist, "The Biological Sciences in Minnesota High Schools," *School Science and Mathematics*, XXII (February, 1922), 166–74.

[3] Villa B. Smith, "Science Enrollment at Elgin High School," *School Science and Mathematics*, XIX (May, 1919), 455–57.

[4] F. E. Bolton, "Should Physics Be Required for the University?" *School Review*, XXXII (June, 1924), 433.

[5] Frank K. Foster, "The Status of the Biological Sciences in the Accredited High Schools of the State of Washington," *School Science and Mathematics*, XXIV (April, 1924), 407–23.

in *School Science and Mathematics*. Both of these articles present figures which indicate a substantial increase in the number of pupils taking science, especially general science and biology. The most convincing report is a summary of the Pennsylvania report for 1923 on the status of the sciences in all four-year high schools of the state. This report shows that general science is given in 910 of the 1,005 high schools of the state—required in 76.9 per cent of these schools in the first year and elective in 23.1 per cent—53,904 pupils taking the subject. Biology is given in 871 schools—required in 51.5 per cent of these schools and elective in 48.5 per cent—29,638 pupils taking the subject. Physics is given in 728 schools—required in 36.4 per cent of these schools and elective in 63.6 per cent—19,704 pupils taking the subject. Chemistry is given in 528 schools—required in 18.2 per cent of these schools and elective in 81.8 per cent—17,715 pupils taking the subject. These figures, taken in the aggregate, indicate that the study of science is on the increase in high schools at the present time.

The writer obtained unification of his figures by means of two questions: "Check the year and term in which each of the various sciences appears in your high-school curriculum." "About what proportion of the total number of students in a yearly class takes each of the above subjects?" Table III indicates the number of cases in which different percentages of pupils are registered in the various science courses. The percentage figures are based on the number of pupils in a given class, and naturally the percentages do not have the same numerical base for the various subjects. For example, general science is a first-year subject in most schools; the figure "73" in the last line of the second column of the table means that in 73 schools from 91 to 100 per cent of the first-year pupils are taking general science. On the other hand, the figure "12" in the same line indicates that between 91 and 100 per cent of the pupils in the third or fourth year in 12 schools take physics. The table thus supplies a general indication of the proportion of student registration in the various sciences either through election or school requirement.

A study of Table III shows that in general science, in biology, and, to a lesser extent, in physiology there is frequently a school *requirement* rather than election on the part of the pupils. Botany

and zoölogy, on the other hand, are *elected* by a relatively small number of pupils in a given class. The same is true of physiography, not so many years ago a required subject in the first year of many of the better high schools. The data for chemistry and physics indicate the greatest election at about 50 per cent of the pupils in a given class.

The total number of semester courses is also proportionately much smaller in 1923 than in 1908. Of 501 courses in biological science reported in 1908 in which a time allotment was indicated, 201 were courses of one-half year or less in length. The time allotments ranged from one to eight periods a week. Seventy-seven

TABLE III

SUMMARY OF CASES IN WHICH GIVEN PERCENTAGE OF PUPILS TAKE COURSES IN THE VARIOUS SCIENCES

Per Cent	General Science	Biology	Botany	Zoölogy	Physiology	Chemistry	Physics	Physiography
0–10	5	8	8	8	7	10	15	13
11–20	15	16	17	10	7	25	25	10
21–30	14	32	13	13	9	38	30	12
31–40	14	22	13	5	12	34	38	7
41–50	16	28	4	2	5	32	36	2
51–60	14	19	9	6	5	46	36	6
61–70	10	11	2	4	1	21	12	5
71–80	12	9	2	1	.....	9	11	2
81–90	2	2	2	1	.....	6	9	2
91–100	73	57	7	1	14	8	12	3

semester courses are reported for 1923 out of a total of 1,096 courses which report the number of periods a week. The actual teaching-periods range from three to ten a week. Most of the semester courses are found in physiology, physiography, botany, and zoölogy. Almost no semester courses are found in general science, biology, chemistry, and physics. Considering the larger number of schools reporting in 1923, the situation is seen to be much more favorable from the standpoint of adequate time allotment than it was in 1908.

An interesting comparison of the amount of time devoted to science courses is afforded by a study of some of the figures from the 1908 study as compared with figures from the present study. The most striking fact is that science is more strongly intrenched than it was fifteen years ago in that a greater number of hours are devoted

to the subject in most schools. The following is quoted from the 1908 report:

> The number of school periods per week allotted to biology (and this is true of chemistry and physics so far as data are available) is in by far the greatest number of schools five periods per week of from 40 to 60 minutes each. A large number of schools, especially in the Central, Rocky Mountain, and Pacific divisions, allow from six to eight periods per week. Frequently one or two of such periods is a double period used for laboratory work. Such periods, as in colleges, count as a single period of prepared work. In some schools, especially those giving courses in physiology only, the time allotment to biologic science is meager. A very few schools, notably in the South, devote but one or two periods a week to botany or zoölogy. In the courses in advanced human physiology the time allotted varies considerably, ranging from one period per week for a half year to five periods a week for a half year. For the most part, biologic science seems to be recognized as a laboratory subject, and time is given to pure inductive work in a laboratory with material in the hands of the pupil.[1]

The present findings (Table IV) indicate that the time allotment in the majority of the science courses is five or seven periods a week. In general science, biology, physiology, and physiography five periods are more common than seven. In physics and chemistry seven periods are required in the majority of the courses reported. In botany and zoölogy the number of courses requiring five periods is about the same as the number of courses reported as requiring seven periods.

A recent article by W. G. Bowers and A. E. Brown,[2] published in *School Science and Mathematics*, shows that there has been a rapid growth in the laboratory idea in the United States since 1906. By means of comparative tables the authors show that among 250 representative high schools in all parts of the United States there has been a 200 per cent increase in the number of schools giving double periods since 1906 and more than 100 per cent increase in the number of schools giving more than 100 laboratory hours a year. Their figures are apparently based entirely on the findings for chemistry and physics.

[1] G. W. Hunter, "The Methods, Content and Purpose of Biologic Science in the Secondary Schools of the United States," *School Science and Mathematics*, X (January, 1910), 8.

[2] W. G. Bowers and A. E. Brown, "The Status of Laboratory Work in the High Schools of the Country," *School Science and Mathematics*, XXIV (November, 1924), 815–22.

Is there a sequence of science in the secondary schools of the United States? In 1908 there seemed to be no very definite sequence, although the biological sciences predominated in the ninth and tenth grades, while the physical and chemical sciences were found in the eleventh and twelfth grades. General science as such was practically unknown in 1908. Figure 2 shows that very different conditions exist today. General science has found a place for itself in the ninth grade (first year of the four-year high school). In the same way, biology as a unified science has an established position in the

TABLE IV

DISTRIBUTION OF 1,096 COURSES IN HIGH-SCHOOL SCIENCE ON THE BASIS OF THE NUMBER OF HOURS REQUIRED A WEEK

	Number of Hours								Total
	3	4	5	6	7	8	9	10	
General science	6	9	130	4	37	2	.....	1	189
Biology	1	11	93	16	55	1	.....	3	180
Botany	.....	1	32	5	32	1	1	1	73
Zoölogy	.....	1	21	3	17	2	1	1	46
Physiology	1	2	47	2	12	1	.....	.....	65
Chemistry	1	2	67	30	124	6	2	4	236
Physics	1	.....	68	28	125	6	1	5	234
Physiography	.....	.....	44	6	21	1	.....	1	73
Total	10	26	502	94	423	20	5	16	1,096

tenth grade. In the eleventh and twelfth grades physics and chemistry are well established, having improved the positions that they held in 1908.

In 368 high schools, 53.9 per cent of all of the science courses in the first year are courses in general science; 16.1 per cent of the courses are biology courses; and it is interesting to note that New York State with its required biology has 9.9 per cent of this total. In New York the change from the normal sequence is brought about by the imposition of the so-called Regents examinations given by the University of the State of New York. A careful study of the answers to the questionnaire from New York indicates dissatisfaction on the part of many teachers with regard to the sequence established there. Physiology accounts for 13.5 per cent of all science courses in the

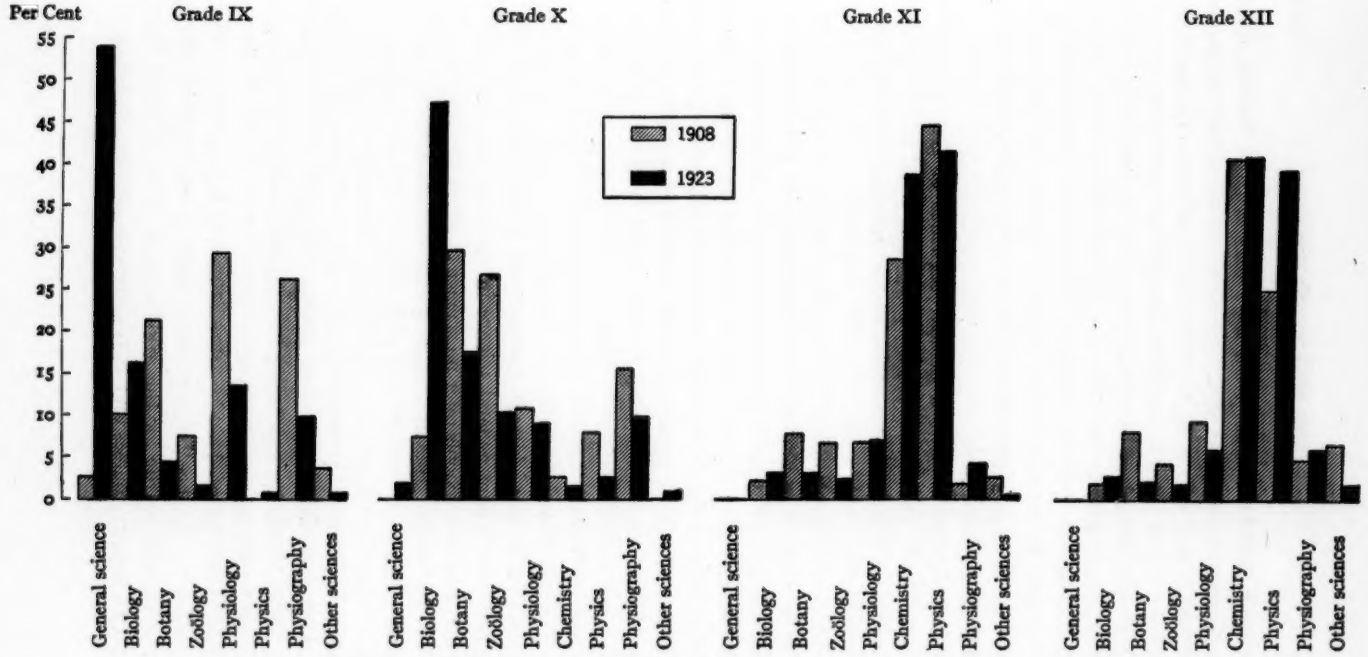

FIG. 2.—Percentage distribution of science courses in each year of the four-year high school—1908 and 1923

first year, but here again state laws play a part. Physiography courses constitute 9.7 per cent of the total. Of the science courses in the second year of the high school, 47.1 per cent are courses in biology; 17.4 per cent, courses in botany; 10.2 per cent, zoölogy; 8.8 per cent, physiology; or a total of 83.5 per cent biological courses in the second year. In the third year physics accounts for 41.4 per cent of all science courses; chemistry, 38.6 per cent; and physiology, 6.8 per cent. In the fourth year, chemistry accounts for 40.6 per cent of all science courses; physics, 39.2 per cent; physiology and physiography, 5.9 per cent each.

These figures indicate a definite sequence of general science, biology, physics, and chemistry, although the trend toward placing chemistry in the last year varies in the different sections of the United States.

There are exceptions to the accepted sequence in different parts of the country. New England rather uniformly leans toward general science in the first year with biological courses in the second year. Some conservative states, such as New Hampshire and Massachusetts, offer botany and zoölogy in place of biology or along with it in the second year. The Middle states show far from uniform conditions in their sequence. This is brought about largely through New York's offerings of biology in place of general science in the first year and by the fact that certain states still adhere to the laws advocated by the Women's Christian Temperance Union, which cause the teaching of physiology in the first year of the high school. The Southern states offer general science in the first year, but a large percentage of the schools offer no science at all in the first year. In the Middle states, Illinois breaks up the science sequence, many schools offering physiology and physiography in place of general science, again an adherence to an old law. Ohio and Wisconsin also break away from the general sequence, while Indiana does not show an offering of general science in a large percentage of the schools. The Rocky Mountain and Pacific states show the largest percentages of general science in the first year.

As has been pointed out by other writers, biology as a year course is tending to displace botany and zoölogy in the high school. In particular, this is true for the Middle states. The Southern states report 19 biology courses and 12 botany and zoölogy courses in the

tenth grade. The North Central states report 78 courses in biology and 48 courses in botany and zoölogy in the tenth grade. In the Rocky Mountain states 18 courses in biology are offered as compared with 15 courses in botany and zoölogy. In the Pacific states 22 courses in biology and 18 courses in botany and zoölogy are offered, but Washington offers 12 of these 18 botany and zoölogy courses. California shows a strong modern tendency in that she offers almost all tenth-grade courses as "civic biology," advanced courses in botany and zoölogy appearing in the later years of the high school.

The position of physics and chemistry is divided between the eleventh and twelfth grades. There are 199 courses in chemistry and 213 courses in physics offered in the eleventh grade and 207 courses in chemistry and 200 courses in physics in the twelfth grade. The swing toward physics in the third year of the high school and chemistry in the fourth year is more marked in the Middle and New England states, while the tendency to place chemistry in the third year and physics in the fourth year is seen in the North Central, Rocky Mountain, and Pacific states. When the offerings in chemistry and physics in 1908 and 1923 are compared, a marked increase in the number of chemistry courses is seen. The increase in physics is not so great.

Other interesting facts may be obtained from a study of the data presented. It is noticed, for example, that physiography, which in 1908 was a leading first-year subject, has decreased greatly in the number of courses given and in the number of pupil elections and is tending to become an advanced course in the twelfth grade. Biology, on the other hand, has increased in the ninth grade from 10.0 per cent of the science courses in 1908 to 16.1 per cent in 1923 and in the tenth grade from 7.3 per cent in 1908 to 47.1 per cent in 1923. There seems to be a tendency to adopt the recommendation of the Committee on Science of the Commission on the Reorganization of Secondary Education appointed by the National Education Association to make a standard course of two years of science which will include general science and biologic science and then allow students to elect chemistry, physics, advanced botany or zoölogy, and, to a lesser extent, certain specialized sciences.

[To be concluded]

PUPILS' STANDARDS OF JUDGING CITIZENSHIP

CLAUDE MITCHELL
Principal of Schools, West Newton, Pennsylvania

At the present time the younger generation is commonly criticized for a lack of serious intentions, a low standard of morality, and a general lack of those qualities that make for good citizenship. The whole matter was presented to the writer so forcibly that an experiment was undertaken to ascertain, if possible, the answers to the following questions: (1) Are our high schools educating our young people to become better citizens? (2) Are the standards of moral judgment higher in the case of girls than in the case of boys? (3) What undesirable traits in a citizen do our young people most despise?

The moral standards by which pupils judge the actions of other people and which regulate their own conduct cannot easily be ascertained, for pupils often have higher standards than their actions indicate. It is difficult, therefore, to answer the foregoing questions. The writer, knowing that it was almost impossible to secure direct answers, decided to try an indirect method of approach. It is not easy to determine what an individual will do under certain circumstances, but his judgment of the actions of other people generally gives some idea of his moral standards.

The first problem was to obtain a list of the traits or virtues that necessarily enter into the making of a good citizen. After consulting business men, bankers, lawyers, teachers, ministers, and laborers, the following list of virtues was made up: courage, honesty, industry, morality (chastity), obedience, service, sobriety, tolerance, truthfulness, and thrift. The term "morality" was a very general term but seemed to convey the meaning of chastity in the vocabulary of the pupil better than the term "chastity" itself and hence was used. Ten stories, each illustrating the lack of one of these virtues, were then prepared. As an example, the story illustrating the lack of the virtue "honesty" follows:

Henry Kennedy was a poor country boy who desired to go to the city. When he was eighteen years old, he secured a position as clerk in a city grocery store. He was very anxious to improve his time, so he purchased books with his spare money and studied after the store closed at night. One evening after the store had closed, while he was on his way to his room, he met a book agent who had just the book Henry needed, but he did not have the money to buy it. He went to his room sorrowfully because he could not buy the book. During the night he thought of a plan to buy the book. The next morning he came to the store and took two dollars out of the cash drawer without the owner's knowing it. Henry's plan was to put the money back again when he received his month's pay. Before pay day came around Henry was compelled to go home on account of illness, and he never returned to the city again. Today he owns a farm in one of our western states.

Each pupil in the high school at West Newton, Pennsylvania, was given a copy of the ten stories with the following instructions:

After you have read story No. 1, answer the following questions. When you have finished story No. 1, take up story No. 2, then story No. 3, and so on until have finished. *Do not sign your name on your paper or leave any sign whereby you can be identified.* Judge for yourself, and do not pay any attention to what your neighbor may answer.

1. Do you think that this person would be a good citizen?
2. Would you vote for this person if he were a candidate for judge of the courts and you expected to have a trial in the courts?
3. Do you think it would be a good thing to follow this person's plan if you were in a position like it?
4. Write the word of the following group that best expresses this person's character and tells why you answered the three other questions as you did: courage, cowardice; honesty, dishonesty; industry, laziness; morality, immorality; obedience, disobedience; service, selfishness; sobriety, intemperance; tolerance, intolerance; truthfulness, falsehood; thrift, extravagance.

Each pupil was instructed that he should express, as nearly as possible, his own personal reaction or attitude toward the characters in the several stories. Ample time was given to read each story and answer the questions. When the papers were collected, those of the boys and girls were kept separate.

The answers to Question 1 are summarized by grades in Table I and by sex in Table II. The answers to Questions 2 and 3 are summarized in Tables III and IV, respectively.

The answers to Question 4 showed beyond a doubt that the pupils were able to select very well the traits or virtues by which

they judge their fellows. Table V lists the undesirable traits in a citizen in the order in which they are despised by the pupils.

TABLE I

PERCENTAGE OF AFFIRMATIVE AND NEGATIVE ANSWERS TO QUESTION 1 IN EACH GRADE

TRAIT	GRADE VIII (48 PUPILS)		GRADE IX (135 PUPILS)		GRADE X (75 PUPILS)		GRADE XI (50 PUPILS)		GRADE XII (34 PUPILS)	
	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
Cowardice	8	92	18	82	9	91	10	90	9	91
Laziness	12	88	10	90	8	92	5	95	9	91
Dishonesty	24	76	28	72	18	82	14	86	18	82
Intolerance	14	86	13	87	23	77	4	96	6	94
Intemperance	4	96	4	96	4	96	0	100	0	100
Extravagance	36	64	22	78	16	84	16	84	15	85
Immorality	5	95	5	95	5	95	4	96	6	94
Falsehood	20	80	16	84	10	90	12	88	9	91
Selfishness	0	100	4	96	4	96	4	96	0	100
Disobedience	12	88	12	88	8	92	6	94	9	91

TABLE II

PERCENTAGE OF BOYS AND GIRLS ANSWERING QUESTION 1 AFFIRMATIVELY AND NEGATIVELY

TRAIT	167 BOYS		175 GIRLS	
	Yes	No	Yes	No
Cowardice	11	89	12	88
Laziness	10	90	6	94
Dishonesty	29	71	21	79
Intolerance	21	79	10	90
Intemperance	3	97	1	99
Extravagance	22	78	17	83
Immorality	6	94	5	95
Falsehood	14	86	10	90
Selfishness	3	97	2	98
Disobedience	10	90	8	92

Table VI lists the traits in the order in which the pupils believe it would be most dangerous for them to adopt these traits in similar circumstances.

What does the experiment show? As was stated at the outset, people's actions do not always indicate what they believe to be

TABLE III

PERCENTAGE OF AFFIRMATIVE AND NEGATIVE ANSWERS TO QUESTION 2 IN EACH GRADE

TRAIT	GRADE VIII		GRADE IX		GRADE X		GRADE XI		GRADE XII	
	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
Cowardice	4	96	13	87	6	94	3	97	0	100
Laziness	4	96	8	92	4	96	0	100	10	90
Dishonesty	12	88	22	78	18	82	16	84	12	88
Intolerance	10	90	14	86	16	84	6	94	4	96
Intemperance	3	97	0	100	3	97	0	100	0	100
Extravagance	12	88	14	86	14	86	4	96	6	94
Immorality	4	96	6	94	6	94	4	96	0	100
Falsehood	13	87	18	82	8	92	4	96	0	100
Selfishness	0	100	4	96	4	96	4	96	0	100
Disobedience	0	100	12	88	8	92	3	97	10	90

TABLE IV

PERCENTAGE OF AFFIRMATIVE AND NEGATIVE ANSWERS TO QUESTION 3 IN EACH GRADE

TRAIT	GRADE VIII		GRADE IX		GRADE X		GRADE XI		GRADE XII	
	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
Cowardice	8	92	6	94	6	94	2	98	4	96
Laziness	0	100	4	96	4	96	0	100	2	98
Dishonesty	12	88	10	90	12	88	7	93	8	92
Intolerance	16	84	12	88	12	88	0	100	0	100
Intemperance	0	100	0	100	0	100	0	100	0	100
Extravagance	12	88	4	96	8	92	2	98	0	100
Immorality	0	100	4	96	4	96	4	96	0	100
Falsehood	12	88	12	88	4	96	6	94	4	96
Selfishness	0	100	0	100	0	100	0	100	0	100
Disobedience	4	96	4	96	4	96	6	94	0	100

TABLE V

ORDER IN WHICH THE TRAITS ARE DESPISED BY THE PUPILS

Order	Boys	Girls	All Pupils
1	Intemperance	Intemperance	Intemperance
2	Selfishness	Selfishness	Selfishness
3	Immorality	Immorality	Immorality
4	Laziness	Laziness	Laziness
5	Disobedience	Disobedience	Disobedience
6	Cowardice	Intolerance	Cowardice
7	Falsehood	Falsehood	Falsehood
8	Intolerance	Cowardice	Intolerance
9	Extravagance	Extravagance	Extravagance
10	Dishonesty	Dishonesty	Dishonesty

right, but their approval or disapproval of other people's actions may give some clew to what they expect from a citizen. To be sure, the experiment does not involve cases enough nor include a sampling sufficiently varied to warrant definite conclusions, but, so far as valid conclusions may be drawn, we offer the following:

1. The pupils' standards of judgment are not lower, but higher, when they leave high school than when they enter.

2. Girls are a little more critical in their judgment of virtues than are boys.

3. Pupils rank sobriety as the most essential virtue of a good citizen and honesty as the least essential of the ten virtues given.

TABLE VI

ORDER IN WHICH THE PUPILS THINK IT WOULD BE MOST DANGEROUS FOR THEM TO ADOPT THE TRAITS

Order	Boys	Girls	All Pupils
1	Intemperance	Intemperance	Intemperance
2	Immorality	Disobedience	Selfishness
3	Selfishness	Selfishness	Laziness
4	Laziness	Laziness	Immorality
5	Cowardice	Extravagance	Disobedience
6	Disobedience	Immorality	Extravagance
7	Extravagance	Falsehood	Cowardice
8	Intolerance	Intolerance	Falsehood
9	Falsehood	Cowardice	Intolerance
10	Dishonesty	Dishonesty	Dishonesty

4. A person may pass as a good citizen in the judgment of some pupils and still not be good enough to serve as a judge over them or be a good example for them to follow. In the experiment 11 per cent of the pupils passed a person as a good citizen when lacking one of the ten virtues, but only 8 per cent would vote for this person for judge, and only 4 per cent believed that it might be a safe plan to follow his procedure if in similar circumstances.

In answer to the questions set up at the beginning, then, we would say, in the light of this experiment, (1) that our high schools are educating our young people to become better citizens, (2) that the moral standards of girls seem to be little higher than the moral standards of boys, and (3) that, of the undesirable traits in a citizen, pupils despise intemperance most and dishonesty least.

Educational Writings

REVIEWS AND BOOK NOTES

A curriculum study of the junior high school and Grades V and VI.—In 1923 James M. Glass, director of junior high schools in the state of Pennsylvania and formerly principal of the Washington Junior High School at Rochester, New York, for a long period a mecca for superintendents seeking progressive practices in the education of early adolescents, made a personal study, under a grant from the Commonwealth Fund, of the curriculum practices in Grades V to IX of fourteen cities in thirteen different states. The report[1] of that study presents invaluable information to the numerous cities that first established junior high schools and are now engaged in the difficult task of reorganizing their curriculums and courses of study so as to make them better adapted to achieving the purposes of the new institution. This may be the "practical" order of procedure, but it is to be regretted that so many systems of schools have discredited the reorganization program by adopting only its mechanical features. Mr. Glass's report will prove of great help to those who depend on the independent pioneer work of others.

Mr. Glass first gives evidence, such as has been presented by Holmes and others for the elementary grades, of the tremendous variation in the amount of time devoted each week to several of the school subjects. The range for English in the seventh grade, for example, is from 400 to 180 minutes, or from 29.1 to 12.1 per cent of the school week. This variation is shown to be not only in the subjects as wholes but also in particular phases of the subjects. For example, there is a variation of 3,950 minutes in the time devoted to the fundamental operations of arithmetic in the low fifth grade. The reason for such wide variation is said to be a desire to ascertain through experimentation what is best, but the unfortunate fact is that most of the experiments are so poorly planned, controlled, and measured that little can result save impressionistic and often contradictory judgments. The publication of the facts should go far toward enforcing the rapidly spreading conviction that really scientific study of curriculum problems is imperative, whatever the cost may be.

Despite the variations, the study shows that there is in progressive school systems a distinct tendency to devote time in the intermediate school years to

[1] James M. Glass, *Curriculum Practices in the Junior High School and Grades 5 and 6.* Supplementary Educational Monographs, No. 25. Chicago: Department of Education, University of Chicago, 1924. Pp. x+182. $1.75.

the fine arts, the practical arts, and science as constants and to increase the opportunities for earlier specialization by the offering of electives, such as commercial courses, foreign languages, and specialized extensions of subjects that have previously been required. Quite as important is the evidence presented in the later chapters of the report that reorganization has materially affected the emphasis on topics in the several courses of study. The average percentage of time in the English courses of the seventh and ninth grades devoted to grammar is 26 and 17, respectively; the average percentage of the grammar time in Grade VII B and Grade VII A devoted to pronouns is 22 and 6, respectively. Similar variations, with a tendency toward stressing what is assuredly of importance rather than what is justified by deferred and contingent values, are shown in detail by several tables.

In presenting the facts of curriculum practices, Mr. Glass has made a most valuable contribution, but, as he says, his study is a first step, which needs to be followed by others, measuring results so that they can be compared and constructing, rather than revising, courses of study that will be more thoroughly justified than any now are. He also makes a valuable contribution, though here he is on far less certain ground, by stating what he thinks should be the curriculum of junior high schools. His practical experience with such schools, both as a city principal and as a state director, and his personal contacts with other widely scattered schools while making this study give weight to his recommendations. It should not be forgotten, however, that ideal curriculums must be based on the answers to a number of fundamental questions, and these answers we do not yet have. Subsidies are needed to make possible an extensive co-operative study that will result in a sound foundation on which all may build.

THOMAS H. BRIGGS

TEACHERS COLLEGE
COLUMBIA UNIVERSITY

Modern methods in education.—An important feature of the modern movement in education is the introduction of new and improved methods of classroom instruction. Many methods in use twenty-five years ago have been displaced within the last decade. The result of the change has been that many classroom teachers have found themselves completely out of date in their classroom technique. They have perhaps heard and read something of the new methods, but many have never had access to a clear presentation of them. Teachers-in-training and those just entering the profession have needed a handbook in classroom methods. A new book[1] in this field has for its purpose the presentation of the best of the recent experimentation in teaching technique.

The author's point of view is that the modern classroom teacher should be stimulated to experiment with a variety of teaching methods. The personal

[1] Martin J. Stormzand, *Progressive Methods of Teaching*. Boston: Houghton Mifflin Co., 1924. Pp. xii+376. $2.00.

element is an important factor in the teacher's success. One teacher may be highly successful with the project method while another will fail. Each teacher, therefore, should experiment with a number of methods in order that she may discover the technique best suited to herself. The author has given a clear and somewhat practical description of all the new and important methods of instruction. He has made an evaluation of each of these methods, giving its strength and its weaknesses; no attempt has been made to make all teaching methods center around some one method as the only technique of teaching. Furthermore, the book is a text in general methods, with no effort to differentiate between the various school levels. The methods discussed are the following: textbook teaching, using collateral materials, the inductive-development technique, supervised study, the project and the problem methods, the object lesson and the laboratory method, the appreciation lesson, reviews and reorganization, socialized recitation, new methods in testing, and the trend toward individual instruction.

The author's treatment of the project and the problem methods constitutes one of the best chapters. It is maintained that a careful distinction should be made between them, the line of demarcation being that the "project method is the solution of *problems* on the *real* plane of activity." The problem method may solve problems only on the plane of thought.

Another special feature of the book is the chapter on new methods of testing, in which are presented very helpful suggestions with regard to the use and value of enumeration tests, reasoning tests, yes-and-no tests, association tests, and completion tests.

The chapter on supervised study is in some respects the best in the book. It is divided into three parts. In the first part the various forms of study are identified and discussed. In the second part the significance, definition, and analysis of essentials are presented in a very clear manner. The third part deals with the problem of interest and motivating attention and the curriculum-maker's problem. The curriculum-maker's special problem is: What shall we teach? The teacher's special problem is: How shall we teach? The child is an intermediate factor. The conclusion is that both of these questions must be answered on the basis of the child's needs, not on the basis of social needs alone.

It is the conclusion of the author that all the movements in teaching technique have made their peculiar contributions to the development of two general trends in the public school, both of which are already radically modifying mass education. These trends are (1) the discovery and diagnosis of individual differences in abilities, needs, and performances and (2) the adjustment of the work of the classroom to individual needs and abilities by a rapid development of individual instruction.

HOMER P. RAINEY

UNIVERSITY OF OREGON

The English course for junior and senior high schools.—The Department of Education of the city of Baltimore has made a contribution to education in the publication of their course of study in English.[1] It contains a detailed outline of the work for the junior and senior high school grades. The book is divided into four almost equal parts in which are discussed junior high school composition, junior high school literature, senior high school composition, and senior high school literature. These parts are, in turn, divided into discussions of the work of each year. Preceding each outline of work is a clear statement of the objectives to be kept in mind for the particular year and phase of the work. The objectives are in line with the best thinking of present-day educators. They are followed by a statement of the content to be covered and lists of supplementary readings. The largest part of each division is that which deals with suggestions for handling the material. These suggestions are definite and detailed and are themselves a valuable study of technique. Each section has its own bibliography of useful books, making, in many instances, specific reference to the most helpful chapters of these books.

The compilers of this course of study are to be commended for their insistence on the separation of literature and composition, for the clear recognition throughout of the various levels of development, and for the variety and excellence of their suggestions for teaching. There are two outstanding points of excellence: (1) the carefully stated objectives which are based on a study of social needs and (2) the measurement of the pupil in terms of abilities. There are in each of the various divisions five or six objectives stated, and repeatedly in the list of results there is such an expression as, "The child must be *able* to . . . . "

The reviewer is inclined to think that there is too little emphasis on individual instruction. No provision seems to have been made for handling the superior student. There is evident throughout the book the assumption that every member of the group should come in contact with the same classics. Occasional mention is made of the socialized recitation, but there is no recognition of the value of a library situation in the classroom, in which the pupil may have some choice in the classic he studies and in which the instructor may be a guide and an inspiration. One wonders if habits of wide reading will be cultivated by the plan outlined. It is to be regretted that, contrary to the most up-to-date practice, histories of literature are recommended for use by the pupil.

In spite of these defects, there can be little doubt that the English teachers of the city of Baltimore will get unusual results if they follow this course of study. Educators in other cities will welcome it as a practical and concrete contribution.

MARTHA JANE MCCOY

New type examinations in the high school.—The problem of testing and examining pupils in a scientific and objective manner is an ever recurring one. Mere

[1] *Course of Study for Junior and Senior High Schools: English.* Baltimore: City Department of Education, 1924. Pp. 252.

opinion has been playing too large a part in the formulation of examination questions and especially in the marking of such questions. The testing movement has done much to standardize tests and make them objective. Standardized tests, however, do not wholly replace the regular examinations.

A recent investigation[1] is directed toward the determination of the "comparative values and limitations of true-false, multiple-choice, completion, word- or phrase-answer, arrangement, and essay examinations for achievement in the high school, with special reference to history" (p. 11). The work begins by setting up criteria governing the value of tests and examinations. The advantages and limitations of the new examinations are then discussed. The experimental work is described in two parts: the work done (1) in the George Washington High School, New York City, and (2) in other co-operating schools. In the first case 163 pupils, most of whom were in the last year of the high-school course, were selected as subjects for the investigation. As no very definite results were obtained from the second experiment, it will not be discussed here.

The author describes in detail the preparation of the examinations, how and when they were given, how they were graded, and the handling of the data. Criteria were developed whereby comparisons were made of the relative values of the different examinations. The conclusions are briefly summarized in the following paragraph:

> Given tests of equal length, as measured by time spent in testing, and prepared by teachers with some training in the matter of test construction, one type of test yielded practically as good results as another for measuring achievement in history in the senior high school. With one or two exceptions, this was true whether the achievement measured was general achievement for the course, ability to think with the materials for the course, or information [p. 58].

While the results are other than might have been expected, the experiment is a real contribution to the scientific refinement of both the old and the new type examinations. Many valuable revelations regarding examinations are contained in the study. Any teacher will find the discussion very suggestive and helpful in the making and giving of examinations.

JOHN A. NIETZ

An experiment in extensive informational reading.—European schools have emphasized the lecture method of instruction, which limits the amount of material presented and is not conducive to the highest type of thinking on the part of the pupil. America has developed a textbook scheme of education, which is a step forward in that the pupil has an opportunity at first hand to examine source materials, the interpretation of which is not colored so highly by the individual instructor as is the case under the European lecture system. A more recent tendency is to supplement the contents of a basic text in a given course by

[1] Sterling G. Brinkley, *Values of New Type Examinations in the High School with Special Reference to History*. Teachers College Contributions to Education, No. 161. New York: Teachers College, Columbia University, 1924. Pp. vi+122.

the use of other texts and by the assignment of a wide variety of extensive reading material. A Teachers College publication[1] describes an attempt to determine the values of extensive reading of general-science material.

Nearly one-half of the total space, chapter i, is devoted to a consideration of the basic criteria which were used in the selection of the extensive reading material. Questionary I was sent to a selected group of secondary schools in order to ascertain the current practice with respect to the use of texts, syllabi, and extensive reading in general science. A total of 206 questionnaires were sent out, and 105 were returned. Of the schools replying, 70.2 per cent base their course in general science on one text only. In order to determine the type of scientific knowledge needed for intelligent reading of the public press, 2,153 articles from the study by Caldwell and Finley, *Biology in the Public Press*, and 630 miscellaneous scientific articles were selected for analysis. The articles were analyzed according to function, method of treatment, and content. The 630 articles selected specifically for the purpose of the study were further classified into three groups according to whether the material was physical science, biological science, or both. One conclusion from the analysis was that only 13.7 per cent of the articles could be read intelligently with no scientific background on the part of the reader. Questionary II was devised for the purpose of securing questions from children and adults which would reveal their scientific interests. Questionary III contained a list of the scientific attitudes to which general science is expected to contribute. It was sent to fifty high-school teachers of science and fifty college teachers of science for their evaluation of the various items.

On the basis of the criteria selected in chapter i the author chose two libraries of about forty volumes each from a total of 347 books examined and set them aside for the purpose of the extensive reading. Several experiments were carried on with control and experimental groups in order to determine the effect of extensive reading. Brightness quotients and the Dvorak General Science Scales were used for the purpose of pairing the control and experimental groups. The results of the reading were tested by means of a form of the Dvorak General Science Scales and by means of a test of scientific attitudes devised by the author. The extensive reading was tested under three conditions: when given as an extra course outside of the regularly scheduled program of studies, when substituted for part of the usual required work in general science, and when permitted as a privilege in addition to the regularly required work of the course in general science. Questionary IV aimed to ascertain whether the experiment had resulted in an increase in the reading of magazine science and an increase of interest in science. Questionary V sought to determine the values which the pupils themselves considered that they had derived from the experiment. Questionary VI was sent to the parents of the pupils concerned in order to secure their evaluation of the experiment.

[1] Francis Day Curtis, *Some Values Derived from Extensive Reading of General Science*. Teachers College Contributions to Education, No. 163. New York: Teachers College, Columbia University, 1924. Pp. vi+142.

In general, the author concludes that extensive reading of scientific literature serves to increase individual achievement in general science and contributes to the scientific attitude of the individual, although in the latter case the improvement is not so large as might be secured from a small amount of class time devoted specifically to the teaching of scientific attitudes. The Appendix contains alphabetically arranged lists of scientific terms, radio terms, and scientific interests which were secured in the course of the experiment. A brief bibliography is given. The study is open to the criticism that a large part of the data is based on questionnaires which require subjective answers. It is possible that the last three of the questionnaires were answered in terms which the individuals thought would be pleasing to the experimenter. Forty-two parents were asked for an evaluation of the experiment, and only seventeen replied. While the replies received were gratifying, the opinions of the twenty-five parents who were not interested enough to answer are a matter of uncertainty. The experiment at least indicates the need for further investigation of the very important problem of extensive reading.

CARTER V. GOOD

A new technique for teaching high-school methods.—Educators are beginning to feel the compulsion of practicing what they preach. Within the last two years a series of problem books covering many of the practical aspects of the educational situation have appeared. Publishers are advertising laboratory manuals to supplement the theoretical work of educational psychology. A further advance in the same direction is made by a book[1] on high-school methods.

Perhaps the author would object to calling the book a text on the methods of teaching in the high school, but its kinship to other books in the methods field is apparent in the following partial list of topics covered: introducing the course, studying the pupil, motivation, discipline, the use of the oral question, the study-recitation, the lesson plan, the assignment, the course of study, the appreciation lesson, transfer of training, teaching pupils to think, the drill lesson, the informal test, the review, etc. This list reveals no startling departure from the usual series of topics discussed in other texts; in fact, the author draws heavily on the work of other writers and sometimes quotes extensively. While the content is not always original (this is rare in any text), there are chapters in which the author makes his own contribution to the literature of the methods field; when he utilizes the materials of other writers, he selects well. Intelligent selection merits commendation, especially when it yields many devices and a wealth of suggestions that can be readily employed by the average teacher.

One of the two main objectives of the book, according to the author, is to distinguish the essential factors in successful high-school teaching. The pursuance of this objective has led the author, as already indicated, to a careful

[1] Douglas Waples, *Procedures in High-School Teaching*. New York: Macmillan Co., 1924. Pp. xx+346.

selection of materials; it has also led to the use of the unit plan in the organization of the book. Each topic is developed in a relatively independent manner; while there is ample justification for the sequence in which the topics occur, the arrangement allows sufficient flexibility for adjustment to most methods courses.

The author's second principal objective is to give practice in working out procedures for actual classroom use. It is in attempting to achieve this objective that the author contributes that technique which makes his book a genuine addition to the literature on methods. The key to the technique is contained in the use of the word "procedures." Practice in the procedures is afforded in several ways. For example, the author uses great care in illustrating typical procedures in terms of the various high-school subjects and various types of classes. He furnishes enough illustrative material so that the individual teacher can find some cases representing conditions with which he is familiar. Again, a unique feature of the text is that the author demonstrates the procedures that are recommended in each chapter by applying somewhat similar procedures to the class using the book. Each chapter is designed to exemplify the principle it delineates. For example, in the chapter on reflective thinking the problem-solving processes are embodied in the presentation of the discussion. Finally, to make certain that the plan of each presentation is not lost, the author concludes each chapter with a section of summary criticism, calling attention to the manner in which the principles of the chapter are embodied in the chapter itself. As a consequence of this novel and practical procedure, the book not only contains much valuable advice for the teaching of high-school subjects but constitutes a distinct contribution to the technique of teaching at the college level.

The author exhibits more than ordinary discrimination in the selection and presentation of the references which follow each chapter. He arranges them in two groups. One group of references duplicates the materials of the text and can be used for class discussion; the other group supplements the text and can be used for individual assignment on special phases of the topics dealt with in the chapter. In addition to these aids, the Appendix contains a list of standardized tests for high-school use and a series of annotated bibliographies covering the fields of periodical literature, special and general methods, and secondary education.

The book is the matured product of the experience of the author in conducting methods courses. It is essentially an exercise book, a text to be used more than read, and, as such, it is unquestionably more than just another book in the field of methods. In the words of Professor Charters, who prepared the Introduction, it is a "notable contribution to the literature of teaching and will be useful to those teachers who believe in the problem method of approach to methods of teaching. It will also be of educative value to teachers who are still doubtful about the value of the method and who wish to try it out and reach a decision as to its value."

HOWARD Y. MCCLUSKY

UNIVERSITY OF MICHIGAN

Methods of teaching agriculture.—During the past decade there have appeared many books dealing with the science and art of teaching, several of which have been in the specialized field of vocational education. Up to the present time, however, there has been no book in which the judicious use of the proper pedagogical methods forms the basis for applying the latest ideas to the teaching of agriculture.

A recent book[1] deals with an analysis of the teaching activity with respect to agriculture. It recognizes the development of ability to think purposefully as the main objective of all teaching. The acquisition of facts is subordinated to the intelligent use of facts in the solution of life-problems. The teacher is given a clear, sound, working knowledge of the methods he must use in order to make his teaching effective. The author points out the failures resulting from the improper use of teaching methods and shows how these may be avoided. He shows the teacher how to make certain he has taught what he thinks he has taught by means of pupil activities in the solution of real problems of the farm and community.

A portion of the book is devoted to the principles which underlie the selection of the subject-matter to be taught, and practical applications are developed. The last chapter, which outlines the duties, responsibilities, and ideals of the teacher of agriculture, will be a source of inspiration to the experienced teacher as well as to the beginner.

A series of appendixes adds greatly to the practical value of the book. Such helpful material is included as an outline of the teacher's plan of work, a community survey form, a reproduction of the Massachusetts Life History Folder, and a record sheet of farm enterprises. A descriptive glossary and a carefully prepared index complete the book.

The volume will be of help to teachers of agriculture and of practical arts in high schools and colleges but more particularly to teachers of vocational agriculture. The teaching procedure described offers fruitful suggestions to teachers of academic subjects.

O. D. FRANK

A reference atlas for high schools.—The need for a reference atlas with large physical maps carrying considerable detail is admirably met by a recent publication.[2] There are fifteen two-page physical maps of the continents and the political divisions, such as the United States and India, and numerous smaller maps of certain regions, such as New Zealand, Northeastern United States and Canada, and the Nile Valley. The vegetation maps of the continents occupy full pages. Density of population, temperature, rainfall, and the political divisions are clearly shown on separate maps. The political divisions are also given on

[1] James B. Berry, *Teaching Agriculture.* Yonkers-on-Hudson, New York: World Book Co., 1924. Pp. xiv+230. $2.00.

[2] John Bartholomew, *The Oxford Advanced Atlas.* New York: Oxford University Press, American Branch, 1924 [revised]. Pp. 96+32. $3.50.

the physical maps but so inconspicuously that they do not interfere with the major use. It is to be regretted that the temperature maps show temperatures reduced to sea level, not actual surface readings, and that the rainfall maps are for January and July only instead of for half-year periods.

H. M. LEPPARD

Essays on high-school methods.—Within the past decade notable contributions have been made to the field of methods at both the elementary-school level and the secondary-school level. New books on methods of teaching must be of distinct worth to merit the consideration of the teaching profession. A recent publication[1] in the field of high-school methods purports to furnish material for a general introductory course and to meet the needs of the large body of teachers in small high schools who find it necessary to teach two, three, or even more subjects.

Two chapters deal with the functions and values of the high school. The authors' conception of the teaching and learning processes is presented in a thirty-page formal discussion of induction, deduction, memory, and appreciation. Of the two chapters on methods in English, one emphasizes facility of expression, power of interpretation, appreciation, mastery of a copious vocabulary, and skill in sentence construction; the second discusses formal instruction in composition, rhetoric, grammar, and vocabulary mastery. The treatment of English shows no acquaintance on the part of the authors with recent experiments which seek to give pupils rich and varied experiences through extensive readings in community-life incidents and social problems. No mention is made of the increasing use of the English classroom as a reading laboratory for the sheer enjoyment and appreciation of good literature and for the discovery and stimulation of reading interests.

It is indicated that the place of Latin in the secondary-school curriculum is amply justified and that the values and methods suggested for Latin may well apply to Greek. The type of argument used is oratorical rather than scientific. "We may confidently expect that the Latin language and literature will long continue to be a vital factor in public education. Latin cannot be truly a dead language as long as patriotic devotion to one's country, dignity of citizenship, and a lofty sense of duty are fundamental in national character" (p. 122). If Latin is to have a place in the curriculum, the question may be raised as to why the authors advocate a formal and stilted method of teaching which emphasizes drill in learning vocabularies, searching for English derivatives, and discriminating between various shades of English equivalents. The treatment of the modern languages is typified by the statement that "learning the 'art of discourse' is a step which cannot be taken until a relatively high degree of mastery of the language has been attained" (p. 156). Experiments show that even in

[1] William A. Millis and Harriett H. Millis, *The Teaching of High School Subjects*. New York: Century Co., 1925. Pp. xviii+478. $2.25.

Latin classes pupils can easily secure a language-arts adaptation which will enable them to use the foreign language with a considerable degree of fluency.

In history the lesson assignment calls for the mastery of the information found in the text and the study of given questions. The recitation is to comprise an exacting "quiz" to insure that the pupils have properly mastered the material assigned and the interpretations of causal relationships (pp. 175–76). There are separate chapters on history, civics, and the social sciences. If the social sciences may be divided into three compartments which require different methods, why not add chapters on political science, economics, and sociology? The treatment shows no evidence of familiarity with the experiments made in the reorganization of the curriculum and with the improved methods of teaching in the social sciences, such as the combination of English and social-science material, a unified social-science curriculum, and composite courses.

The advantage of studying algebra and geometry is to be found in "their disciplines and culture rather than in the value of their content or their logical necessity to other studies" (p. 233). A course in general mathematics is advised for the junior high school, but in the senior high school "the traditional specialized courses are more satisfactory" (p. 257). Evidently the authors have not followed the more recent developments in the direction of unified courses in mathematics.

Separate discussions of methods in physics, chemistry, biology, and physical geography are given. If methods in science may be subdivided to this extent in a general treatment, why not include chapters on zoölogy, botany, agriculture, geology, physiology, and general science?

Discussions of vocational education, aesthetic judgment, moral and religious education, and physical education are included. Of a total of twenty-three pages dealing with vocational guidance, sixteen pages are devoted to outlines of the inducements, drawbacks, and qualifications involved in ten professions and occupations. No mention is made of the use of intelligence tests, try-out courses, pupil-accounting, personnel work, or a definite and workable program of pupil guidance.

The series of essays is made up largely of general and dogmatic statements which contain no substantiating data or references to authority. Virtually no opportunity is given the reader to weigh the evidence from which the authors draw their conclusions. The diction is at times oratorical and persuasive rather than scientific, and in many instances a literary style is affected. Considerable space throughout the various chapters is devoted to principles, objectives, functions, and values of education to the neglect of methods of teaching. The book is painfully lacking in concrete examples of methods, such as might be secured by stenographic reports of classroom procedures and pertinent illustrations. There are no teaching helps, such as problems, exercises, and questions. The references listed at the end of each chapter neglect to include the dates of publication and omit a number of important recent contributions to the field.

In general, the book seems to have been written with a minimum of effort. It does not fulfil its mission of giving teachers in small high schools some degree of proficiency in the methods of the high-school subjects.

CARTER V. GOOD

CURRENT PUBLICATIONS RECEIVED

GENERAL EDUCATIONAL METHOD, HISTORY, THEORY, AND PRACTICE

ANDERSEN, W. N. *A Manual for School Officers.* New York: Century Co., 1925. Pp. xviii+384. $2.00.

COX, PHILIP W. L. *Curriculum-Adjustment in the Secondary School.* Philadelphia: J. B. Lippincott Co., 1925. Pp. viii+306.

LIGDA, PAUL. *The Teaching of Elementary Algebra.* Boston: Houghton Mifflin Co., 1925. Pp. xiv+256. $1.90.

OTIS, ARTHUR S. *Statistical Method in Educational Measurement.* Yonkers-on-Hudson, New York: World Book Co., 1925. Pp. xii+338. $2.16.

PAUL, H. G. *Better Everyday English.* Chicago: Lyons & Carnahan, 1924. Pp. 280.

ROSS, CLAY CAMPBELL. *The Relation between Grade School Record and High School Achievement.* Teachers College Contributions to Education, No. 166. New York: Teachers College, Columbia University, 1925. Pp. viii+70.

SEARS, JESSE B. *The School Survey.* Boston: Houghton Mifflin Co., 1925. Pp. xxx+440. $2.25.

SISSON, EDWARD O. *Educating for Freedom.* New York: Macmillan Co., 1925. Pp. xxiv+226.

STEVENS, EDWIN B., and ELLIOTT, EDWARD C. *Unit Costs of Higher Education.* Report of the Educational Finance Inquiry Commission, Vol. XIII. New York: Macmillan Co., 1925. Pp. xvi+212.

THOMSON, GODFREY H. *Instinct, Intelligence, and Character: An Educational Psychology.* New York: Longmans, Green & Co., 1925. Pp. 282. $3.50.

THURSTONE, L. L. *The Fundamentals of Statistics.* New York: Macmillan Co., 1925. Pp. xvi+238.

TOUTON, FRANK CHARLES. *Solving Geometric Originals.* Teachers College Contributions to Education, No. 146. New York: Teachers College, Columbia University, 1924. Pp. viii+114.

BOOKS PRIMARILY FOR HIGH-SCHOOL TEACHERS AND PUPILS

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